

The Road Inventory of Muleshoe National Wildlife Refuge Muleshoe, TX



05/11/2009

Prepared By:
Federal Highway Administration
Central Federal Lands Highway Division
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TABLE OF CONTENTS

<u>SECTION</u>		<u>PAGE</u>
I.	<u>INTRODUCTION</u>	1 - 1
II.	<u>SUMMARY INFORMATION</u> Summaries by Condition, Surface Type and Functional Class	2 - 1
III.	<u>REFUGE ROUTE LOCATION MAPS</u>	3 - 1
IV.	<u>ROUTE IDENTIFICATION LIST</u>	4 - 1
V.	<u>ROUTE CONDITION RATING SHEETS</u>	5 - 1
VI.	<u>PARKING LOT CONDITION RATING SHEETS</u>	6 - 1
VII.	<u>BRIDGE INVENTORY INFORMATION</u>	7 - 1
VIII.	<u>PHOTOGRAPHIC SHEETS</u>	8 - 1
IX.	<u>ACCIDENT SUMMARY</u>	9 - 1
	<u>APPENDIX</u>	
	Functional Classification Table	i
	Description of Rating System	ii

INTRODUCTION

The Transportation Equity Act for the 21st Century (Public Law 105-178) created the Refuge Roads Program. Refuge roads are those public roads that provide access to or within a unit of the National Wildlife Refuge System and for which title and maintenance responsibility is vested in the United States Government. Funds from the Highway Trust Fund are available for refuge roads and can be used by the station to pay the cost of:

- (a) Maintenance and improvements of refuge roads.
- (b) Maintenance and improvements of:
 - (1) Adjacent vehicle parking areas
 - (2) Provision for pedestrians and bicycles and
 - (3) Construction and reconstruction of roadside rest areas that are located in or adjacent to wildlife refuges
- (c) Administrative costs associated with such maintenance and improvements.

The funds available for refuge roads are to be disbursed based on the relative needs of the various refuges in the National Wildlife Refuge System, and taking into consideration:

- (a) The comprehensive conservation plan for each refuge;
- (b) The need for access as identified through land use planning; and
- (c) The impact of land use planning on existing transportation facilities.

To determine the relative needs of the U.S. Fish and Wildlife Service, the Federal Highway Administration (FHWA) was asked to inventory all public access roads and parking lots and provide a condition assessment of each. In 2008 the inventory was expanded to include administrative (service use only) roads and parking lots. An FHWA representative meets with refuge personnel to identify route segments and assign route numbers and functional classifications (See Appendix) for each route. All roads and parking lots are mapped using Trimble GPS units and visually assessed for condition using the RSL method of evaluation developed at Utah State University (See Appendix). Culverts, Gates, Guardrails and Low Water Crossings are also mapped and inspected for any obvious defects.

An estimate is provided, in year 2008 dollars, based on the condition determined by the rating system. Estimates are based upon data and location factors from the 2008 RS Means Heavy Construction Cost Data 22nd Annual Edition. Cost estimates should be evaluated on a case-by-case basis when being used for programming purposes.

Native Surfaced roads and parking lots already inventoried will not be re-inventoried and will not appear individually in report chapters 5, 6 and 8. Mileages and areas of native surfaced roads and parking lots will still appear in all summaries in the report and will remain in the road inventory database. In addition to this report, the FHWA will furnish the condition ratings of each route and segment to the Fish and Wildlife Service in a Microsoft Access database so the data can be included in their Real Property Inventory.

Muleshoe

Summaries

Route Miles and Percentages by Functional Class and Condition
Condition Rating (Based on RSL)*

F.C.	Excellent		Good		Fair		Poor		Failed		Total
	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles
I	0.67	24.8%	2.05	75.2%	0.00	0.0%	0.00	0.0%	0.00	0.0%	2.72
II	1.85	88.6%	0.24	11.4%	0.00	0.0%	0.00	0.0%	0.00	0.0%	2.09
III	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00
IV	0.30	60.3%	0.20	39.7%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.50
V	12.08	29.7%	21.18	52.1%	7.40	18.2%	0.00	0.0%	0.00	0.0%	40.65
Total	14.90	32.4%	23.66	51.5%	7.40	16.1%	0.00	0.0%	0.00	0.0%	45.96

*For a description of condition ratings for the various surface types see the Appendix.

Route Miles and Percentages by Surface Type and Condition
Paved Condition Rating [Condition(RSL)]

Surface Type	Excellent		Good		Fair		Poor		Failed		Total
	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles
AS	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00
CO	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00
Total	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00

Unpaved Condition Rating [Condition(RSL)]

Surface Type	Excellent		Good		Fair		Poor		Failed		Total
	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles
GR	3.00	54.7%	2.48	45.3%	0.00	0.0%	0.00	0.0%	0.00	0.0%	5.48
NA	11.91	29.4%	21.18	52.3%	7.40	18.3%	0.00	0.0%	0.00	0.0%	40.48
PR	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00
Total	14.90	32.4%	23.66	51.5%	7.40	16.1%	0.00	0.0%	0.00	0.0%	45.96

Square Footage (Parking Areas)
Condition Rating

Surface Type	Excellent		Good		Fair		Poor		Failed		Total
	Sq Ft	%	Sq Ft	%	Sq Ft	%	Sq Ft	%	Sq Ft	%	Sq Ft
AS	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
CO	0	0.0%	653	100.0%	0	0.0%	0	0.0%	0	0.0%	653
GR	0	0.0%	36,884	100.0%	0	0.0%	0	0.0%	0	0.0%	36,884
NA	0	0.0%	8,622	89.4%	1,019	10.6%	0	0.0%	0	0.0%	9,641
PR	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Total	0	0.0%	46,159	98.0%	1,019	2.0%	0	0.0%	0	0.0%	47,178

Muleshoe Summaries

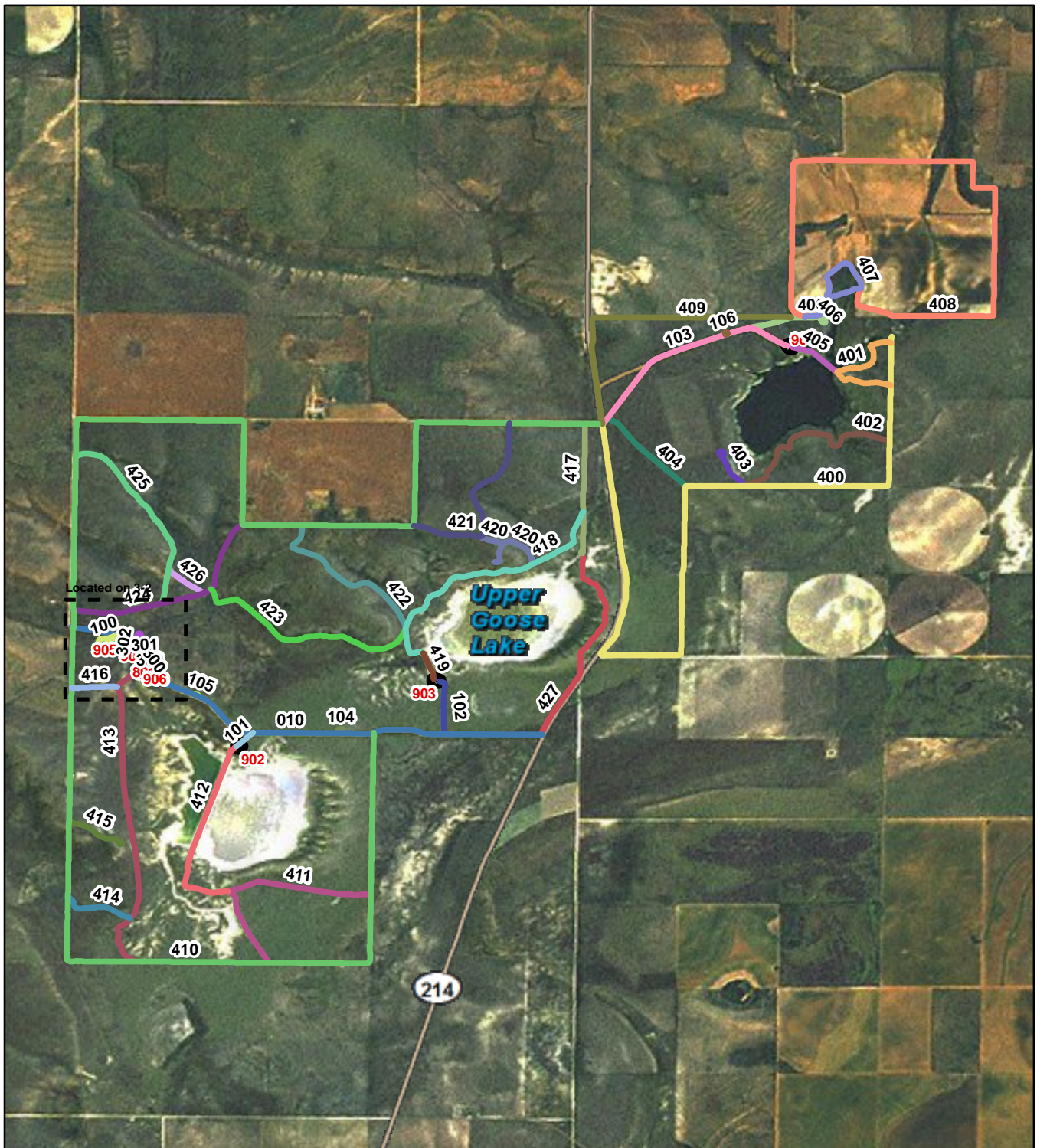
Route Miles and Percentages by Use Type and Condition
Road Condition Rating: Public/Administrative Use

Use Type	Excellent		Good		Fair		Poor		Failed		Total
	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles
Admin	12.38	30.1%	21.37	51.9%	7.40	18.0%	0.00	0.0%	0.00	0.0%	41.15
Public	2.53	52.5%	2.28	47.5%	0.00	0.0%	0.00	0.0%	0.00	0.0%	4.81
Total	14.90	32.4%	23.66	51.5%	7.40	16.1%	0.00	0.0%	0.00	0.0%	45.96

Parking Condition Rating: Public/Administrative Use

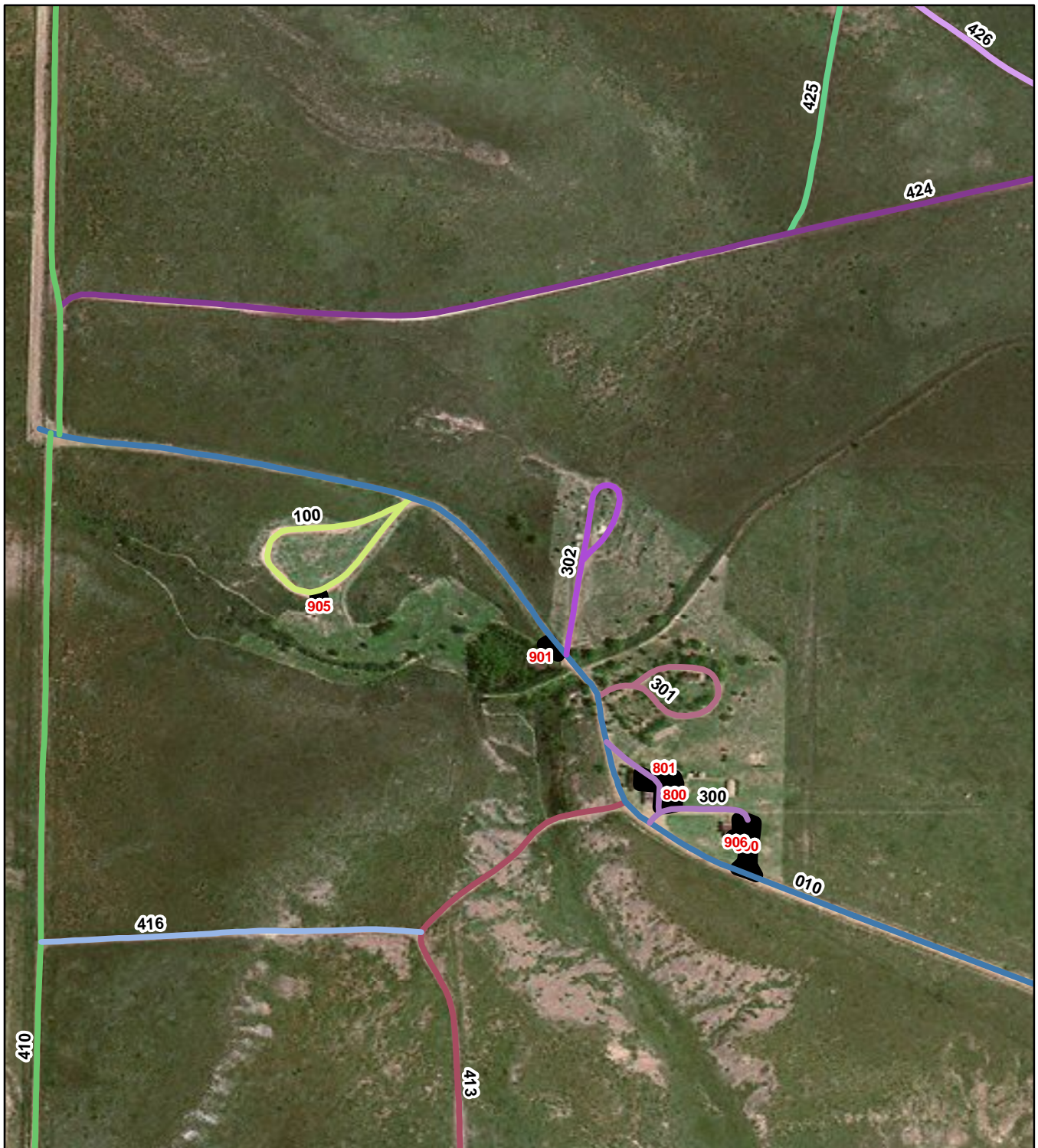
Use Type	Excellent		Good		Fair		Poor		Failed		Total
	Sq Ft	%	Sq Ft	%	Sq Ft	%	Sq Ft	%	Sq Ft	%	Sq Ft
Admin	0	0.0%	7,935	100.0%	0	0.0%	0	0.0%	0	0.0%	7,935
Public	0	0.0%	38,224	97.4%	1,019	2.6%	0	0.0%	0	0.0%	39,243
Total	0	0.0%	46,159	97.8%	1,019	2.2%	0	0.0%	0	0.0%	47,178

Muleshoe ROUTE LOCATION MAP



0 0.3 0.6 1.2 1.8 2.4
Miles

Muleshoe ROUTE LOCATION MAP



0 0.0375 0.075 0.15 0.225 0.3 Miles

3

Muleshoe - 21590 - ROUTE IDENTIFICATION LIST (NUMERIC)

Shading Color Key:

White = Paved Routes

Yellow = Unpaved Routes

RTE #	Asset Number	ROUTE NAME	RTE MI	ROUTE DESCRIPTION	PAVED MI	UN-PAVED MI	LANES	FC
010	10008049	Refuge Entrance Road	2.72	From State Highway 214 to west refuge boundary	0.00	2.72	2	1
100	10008049	Camping Loop Road	0.24	From Refuge Entrance Road (Route 010) to end of loop	0.00	0.24	1	2
101	10008049	White Lake Road	0.12	From Refuge Entrance Road (Route 010) to White Lake Parking Area (Route 902)	0.00	0.12	1	2
102	10008049	Goose Lake Road	0.35	From Refuge Entrance Road (Route 010) to Goose Lake Parking Area (Route 903)	0.00	0.35	1	2
103	10008049	Paul's Lake Road	1.25	From State Highway 214 to Paul's Lake Parking Area (Route 904)	0.00	1.25	2	2
104	10008049	Refuge Information Loop #1	0.07	From Refuge Entrance Road (Route 010) to end of loop at Refuge Entrance Road (Route 010)	0.00	0.07	1	2
105	10008049	Refuge Information Loop #2	0.03	From Refuge Entrance Road (Route 010) to end of loop at Refuge Entrance Road (Route 010)	0.00	0.03	1	2
106	10008049	Refuge Information Loop #3	0.03	From Paul's Lake Road (Route 103) to end of loop at Paul's Lake Road (Route 103)	0.00	0.03	1	2
300	10008049	Maintenance Access Road	0.14	From Refuge Entrance Road (Route 010) to Visitor Center Parking (Route 900)	0.00	0.14	1	4
301	10008049	Residence Access Loop	0.16	From Refuge Entrance Road (Route 010) to end of loop	0.00	0.16	1	4
302	10008049	Boneyard Loop	0.20	From Refuge Entrance Road (Route 010) to end of loop	0.00	0.20	1	4
400	10047135	East Firebreak Road	4.90	From Paul's Lake Road (Route 103) to end of route at marsh	0.00	4.90	1	5
401	10047135	Pig Loop	0.73	From East Firebreak Road (Route 400) to end of loop at East Firebreak Road (Route 400)	0.00	0.73	1	5
402	10047135	Running Pig Road	1.05	From East Firebreak Road (Route 400) to Paul's South Overlook Road (Route 403)	0.00	1.05	1	5
403	10047135	Paul's South Overlook Road	0.32	From East Firebreak Road (Route 400) to end of loop	0.00	0.32	1	5
404	10047135	Trespass Road	0.59	From East Firebreak Road (Route 400) to Paul's Lake Road (Route 103)	0.00	0.59	1	5
405	10008042	Paul's Lake Levee Road	0.29	From Pig Loop (Route 401) to Paul's Lake Parking (Route 904)	0.00	0.29	1	5
406	10047135	Caswell Road	0.52	From Paul's Lake Road (Route 103) to end of route at Paul's Lake	0.00	0.52	1	5

Muleshoe - 21590 - ROUTE IDENTIFICATION LIST (NUMERIC)

Shading Color Key:

White = Paved Routes

Yellow = Unpaved Routes

RTE #	Asset Number	ROUTE NAME	RTE MI	ROUTE DESCRIPTION	PAVED MI	UN-PAVED MI	LANES	FC
407	10047135	Black Spring Road	0.85	From Caswell Road (Route 406) to end of loop	0.00	0.85	1	5
408	10047135	New Aquisition Road	3.80	From Black Spring Road (Route 407) to end of loop at Black Spring Road (Route 407)	0.00	3.80	1	5
409	10047135	Gleason Road (Northwest Firebreak)	1.69	From Caswell Road (Route 406) to East Firebreak Road (Route 400)	0.00	1.69	1	5
410	10047135	Boundary Firebreak Road	10.31	From Refuge Entrance Road (Route 010) to gate at State Highway 214	0.00	10.31	1	5
411	10047135	Playa Road	1.26	From Boundary Firebreak Road (Route 410) to Boundary Firebreak Road (Route 410)	0.00	1.26	1	5
412	10008043	White Lake Levee Road	1.14	From Playa Road (Route 411) to White Lake Parking Area (Route 902)	0.00	1.14	1	5
413	10047135	White Lake Road	1.95	From Refuge Entrance Road (Route 010) to Boundary Firebreak Road (Route 410)	0.00	1.95	1	5
414	10047135	Enoch Road	0.38	From Boundary Firebreak Road (Route 410) to White Lake Road (Route 413)	0.00	0.38	1	5
415	10047135	Perch Road	0.36	From Boundary Firebreak Road (Route 410) to end of loop	0.00	0.36	1	5
416	10047135	White Lake Boundary Connector	0.24	From Boundary Firebreak Road (Route 410) to White Lake Road (Route 413)	0.00	0.24	1	5
417	10047135	North Goose Overlook Road	0.83	From Refuge Boundary Road (Route 410) to end of loop at creek	0.00	0.83	1	5
418	10047135	Service Use Goose Lake Road	1.53	From North Goose Overlook Road (Route 417) to Goose Lake Levee Road (Route 419)	0.00	1.53	1	5
419	10008041	Goose Lake Levee Road	0.17	From Goose Lake Parking Area (Route 903) to Service Use Goose Lake Road (Route 418)	0.00	0.17	1	5
420	10047135	Hill Top Road	0.52	From Service Use Goose Lake Road (Route 418) to end of route	0.00	0.52	1	5
421	10047135	Curve Road	1.16	From Boundary Firebreak Road (Route 410) to Boundary Firebreak Road (Route 410)	0.00	1.16	1	5
422	10047135	Running Buck Road	0.99	From Boundary Firebreak Road (Route 410) to Service Use Goose Lake Road (Route 418)	0.00	0.99	1	5
423	10047135	Deer Road	1.26	From Service Use Goose Lake Road (Route 418) to Slew Foot Road (Route 423)	0.00	1.26	1	5

Muleshoe - 21590 - ROUTE IDENTIFICATION LIST (NUMERIC)

Shading Color Key:

White = Paved Routes
Yellow = Unpaved Routes

RTE #	Asset Number	ROUTE NAME	RTE MI	ROUTE DESCRIPTION	PAVED MI	UN-PAVED MI	LANES	FC
424	10047135	Slew Foot Road	1.18	From Boundary Fire Break Road (Route 410) to Boundary Fire Break Road (Route 410)	0.00	1.18	1	5
425	10047135	Bobcat Road	1.17	From Boundary Fire Break Road (Route 410) to Slew Foot Road (Route 424)	0.00	1.17	1	5
426	10047135	Beierman's Triangle Cut-Across	0.24	From Slew Foot Road (Route 424) to Bobcat Route (Route 425)	0.00	0.24	1	5
427	10047135	South Goose Lake Overlook	1.25	Refuge Entrance Road (Route 010) to end of route at creek	0.00	1.25	1	5

Muleshoe - 21590 - ROUTE IDENTIFICATION LIST (PARKING)

Shading Color Key:

White = Paved Parking Lots

Green = Unpaved Parking Lots

RTE #	Asset Number	ROUTE NAME	RTE SQFT	ROUTE DESCRIPTION	PAVED SQFT	UNPAVED SQFT
800		Maintenance Parking Area	6,444		0.00	6,444
801		Shop Parking Area	1,491		0.00	1,491
900	10008049	Visitor Center Parking Area	7,573		0.00	7,573
901	10008049	Trailhead Parking Area	1,019		0.00	1,019
902	10008049	White Lake Parking Area	8,622		0.00	8,622
903	10008049	Goose Lake Parking Area	10,167		0.00	10,167
904	10008049	Paul's Lake Parking Area	11,209		0.00	11,209
905		Camping Loop Handicapped Parking	308		308.00	0
906		Visitor Center Handicapped Parking	345		345.00	0

CHANGES TO THE FISH AND WILDLIFE SERVICE ROAD INVENTORY REPORT

Muleshoe

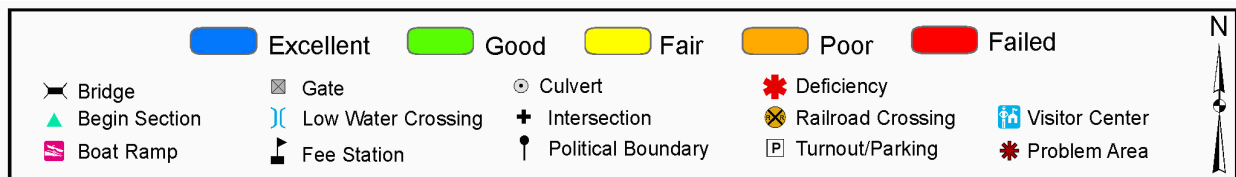
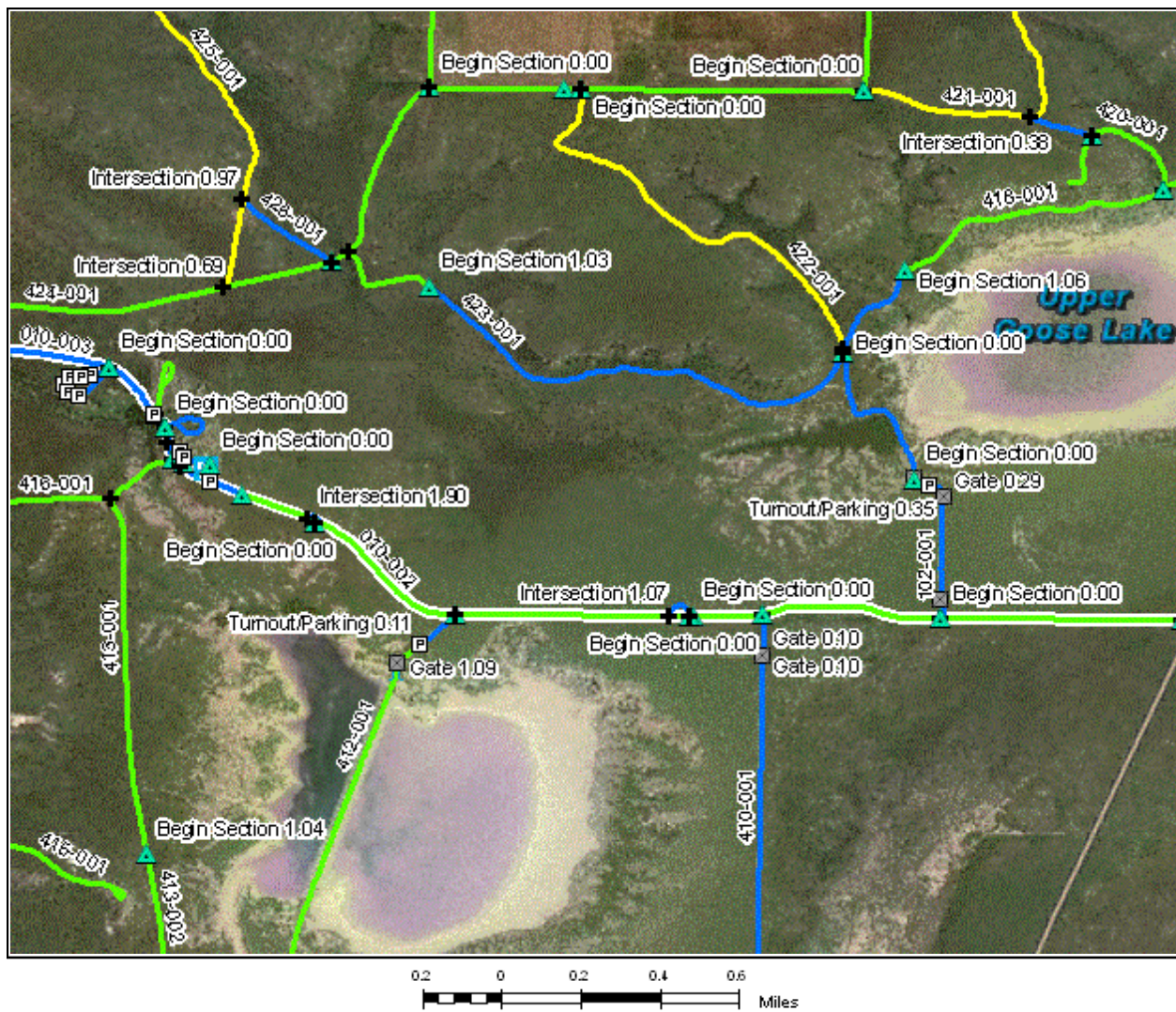
Routes added to previous inventory*:		
Rte #	Rte Name	Reason for Addition
104	Refuge Information Loop #1	New public route
105	Refuge Information Loop #2	New public route
106	Refuge Information Loop #3	New public route
400	East Firebreak Road	Administrative
401	Pig Loop	Administrative
402	Running Pig Road	Administrative
403	Paul's South Overlook Road	Administrative
404	Trespass Road	Administrative
405	Paul's Lake Levee Road	Administrative
406	Caswell Road	Administrative
407	Black Spring Road	Administrative
408	New Aquisition Road	Administrative
409	Gleason Road (Northwest Firebreak)	Administrative
410	Boundary Firebreak Road	Administrative
411	Playa Road	Administrative
412	White Lake Levee Road	Administrative
413	White Lake Road	Administrative
414	Enoch Road	Administrative
415	Perch Road	Administrative
416	White Lake Boundary Connector	Administrative
417	North Goose Overlook Road	Administrative
418	Service Use Goose Lake Road	Administrative
419	Goose Lake Levee Road	Administrative
420	Hill Top Road	Administrative
421	Curve Road	Administrative
422	Running Buck Road	Administrative
423	Deer Road	Administrative
424	Slew Foot Road	Administrative
425	Bobcat Road	Administrative
426	Beierman's Triangle Cut-Across	Administrative
427	South Goose Lake Overlook	Administrative
800	Maintenance Parking Area	Administrative
801	Shop Parking Area	Administrative
905	Camping Loop Handicapped Parking	New public route
906	Visitor Center Handicapped Parking	New public route

Routes removed from previous inventory:		
Rte #	Rte Name	Reason for Removal

Routes modified from previous inventory:			
Rte #	Rte Name	Type of Modification	Description of Modification
900	Visitor Center Parking Area	Geometry/Length change	
902	White Lake Parking Area	Surface change	
903	Goose Lake Parking Area	Surface change	

Comments:

Routes 104,105,106, and Parking Lot 905 were recently constructed
Parking Lot 900 had a geometry changed due to addition of new gravel
Parking Lot 906 was missed during previous inventory
Parking Lots 902 and 903 were changed from native to gravel

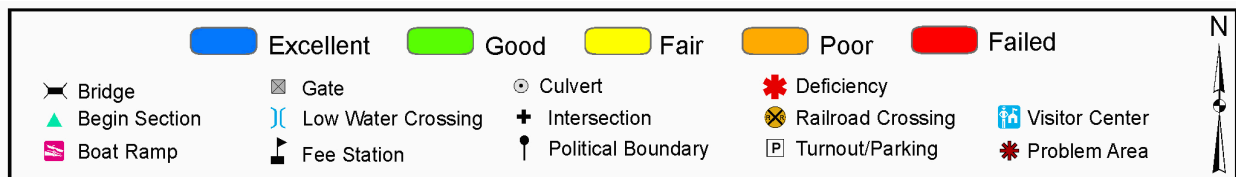


Route: 010 Refuge Entrance Road

Total Route Length: **2.72 Miles**

Route Description: From State Highway 214 to west refuge boundary

Asset Number	10008049	10008049	10008049
Section Number	001	002	003
Section Length (miles)	1.02	1.03	0.67
Inspection Date	05/11/2009	05/11/2009	05/11/2009
Section Information			
Surface Type	Gravel	Gravel	Gravel
Number of Lanes	2	2	2
Roadway Width (feet)	18.00	18.00	18.00
Roadway Condition Information			
Condition	Good	Good	Excellent
Remaining Service Life (years)	7	7	9
Cost Estimate	1,600	1,700	0
CRV	701,300.00	705,800.00	463,000.00

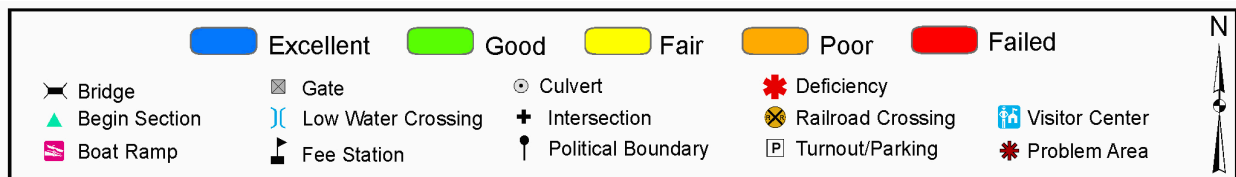


Route: 100 Camping Loop Road

Total Route Length: **0.24 Miles**

Route Description: From Refuge Entrance Road (Route 010) to end of loop

Asset Number	10008049
Section Number	001
Section Length (miles)	0.24
Inspection Date	05/11/2009
Section Information	
Surface Type	Gravel
Number of Lanes	1
Roadway Width (feet)	14.00
Roadway Condition Information	
Condition	Excellent
Remaining Service Life (years)	9
Cost Estimate	0
CRV	162,800.00

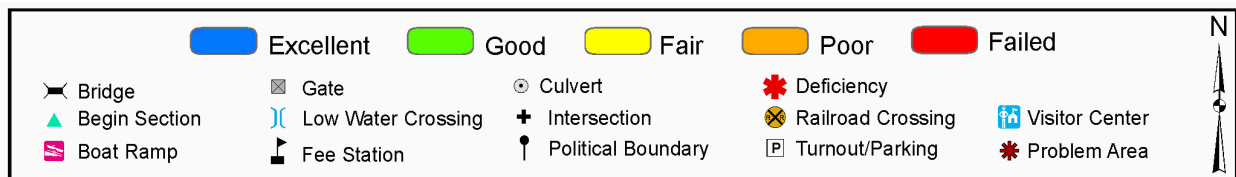
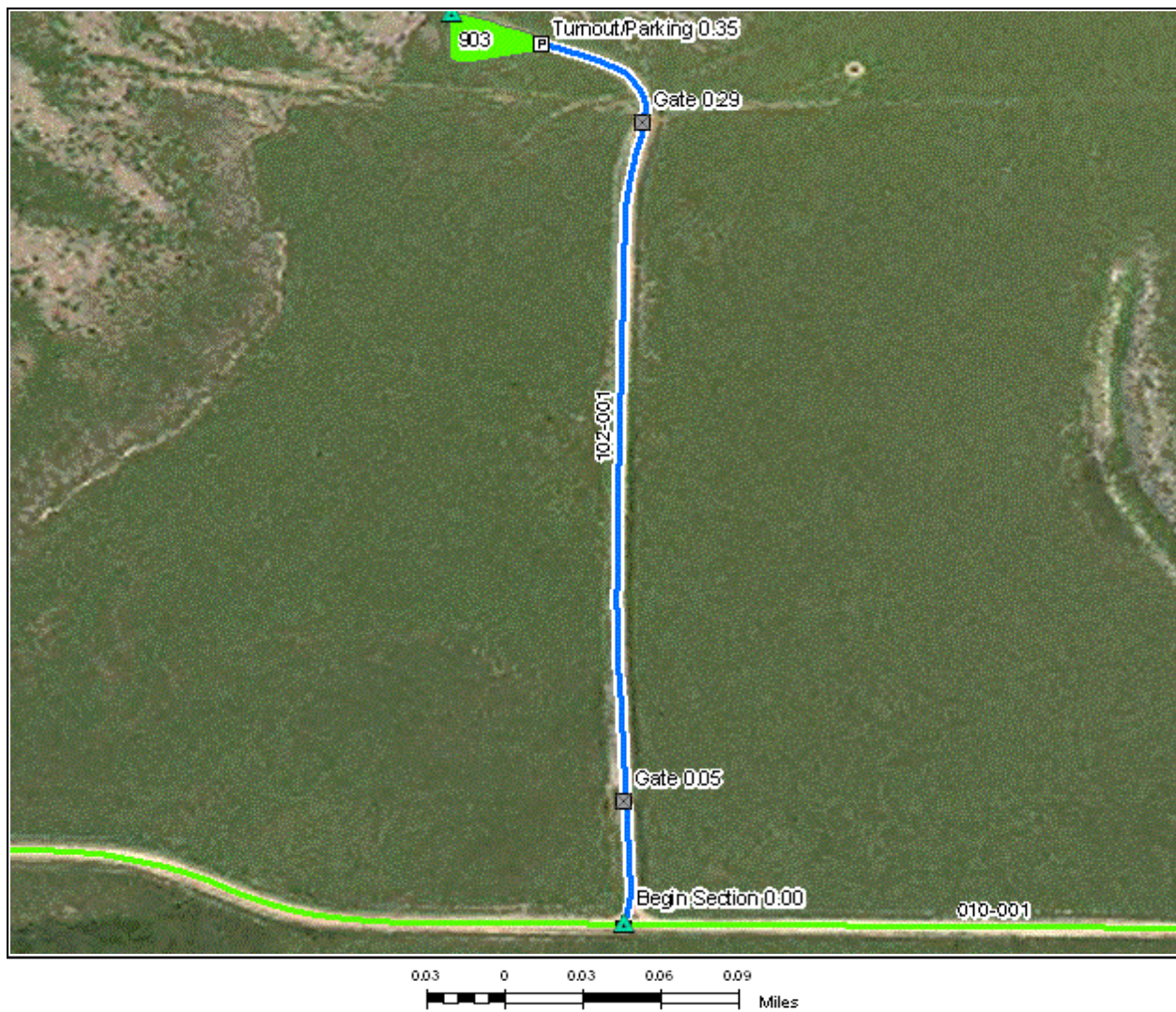


Route: 101 White Lake Road

Total Route Length: **0.12 Miles**

Route Description: From Refuge Entrance Road (Route 010) to White Lake Parking Area (Route 902)

Asset Number	10008049
Section Number	001
Section Length (miles)	0.12
Inspection Date	05/11/2009
Section Information	
Surface Type	Gravel
Number of Lanes	1
Roadway Width (feet)	10.00
Roadway Condition Information	
Condition	Excellent
Remaining Service Life (years)	8
Cost Estimate	0
CRV	82,700.00

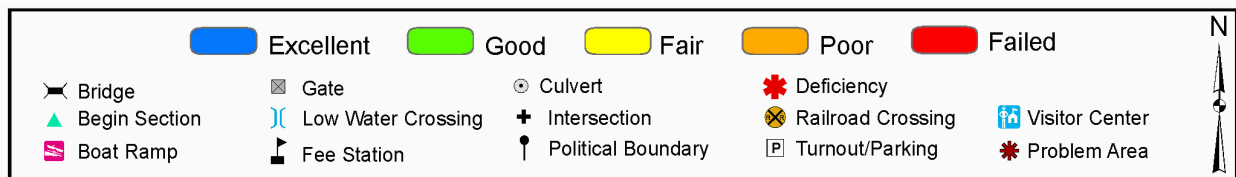


Route: 102 Goose Lake Road

Total Route Length: **0.35 Miles**

Route Description: From Refuge Entrance Road (Route 010) to Goose Lake Parking Area (Route 903)

Asset Number	10008049
Section Number	001
Section Length (miles)	0.35
Inspection Date	05/11/2009
Section Information	
Surface Type	Gravel
Number of Lanes	1
Roadway Width (feet)	12.00
Roadway Condition Information	
Condition	Excellent
Remaining Service Life (years)	9
Cost Estimate	0
CRV	238,600.00

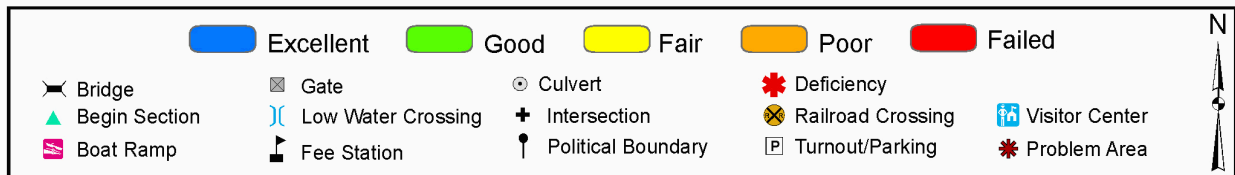
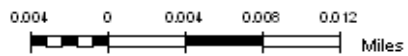


Route: 103 Paul's Lake Road

Total Route Length: **1.25 Miles**

Route Description: From State Highway 214 to Paul's Lake Parking Area (Route 904)

Asset Number	10008049	10008049
Section Number	001	002
Section Length (miles)	1.01	0.24
Inspection Date	05/11/2009	05/11/2009
Section Information		
Surface Type	Gravel	Gravel
Number of Lanes	2	2
Roadway Width (feet)	16.00	16.00
Roadway Condition Information		
Condition	Excellent	Good
Remaining Service Life (years)	8	7
Cost Estimate	0	400
CRV	695,600.00	163,400.00

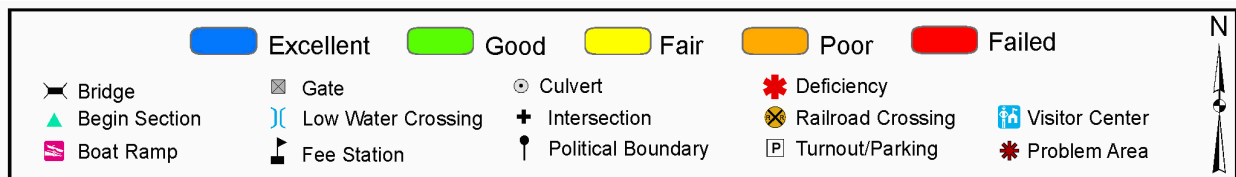
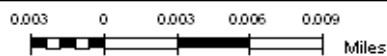


Route: 104 Refuge Information Loop #1

Total Route Length: **0.07 Miles**

Route Description: From Refuge Entrance Road (Route 010) to end of loop at Refuge Entrance Road (Route 010)

Asset Number	10008049
Section Number	001
Section Length (miles)	0.07
Inspection Date	05/11/2009
Section Information	
Surface Type	Gravel
Number of Lanes	1
Roadway Width (feet)	10.00
Roadway Condition Information	
Condition	Excellent
Remaining Service Life (years)	10
Cost Estimate	0
CRV	51,600.00

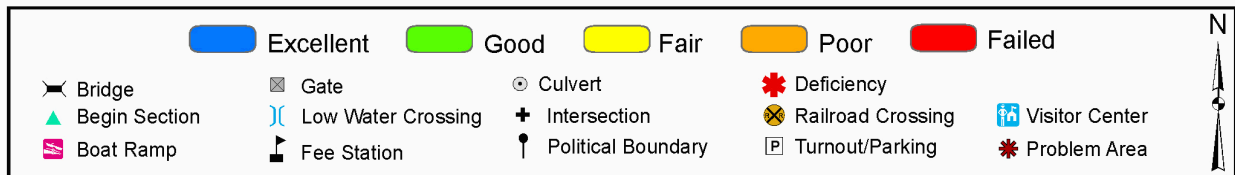
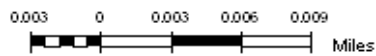


Route: 105 Refuge Information Loop #2

Total Route Length: **0.03 Miles**

Route Description: From Refuge Entrance Road (Route 010) to end of loop at Refuge Entrance Road (Route 010)

Asset Number	10008049
Section Number	001
Section Length (miles)	0.03
Inspection Date	05/11/2009
Section Information	
Surface Type	Gravel
Number of Lanes	1
Roadway Width (feet)	10.00
Roadway Condition Information	
Condition	Excellent
Remaining Service Life (years)	10
Cost Estimate	0
CRV	21,400.00

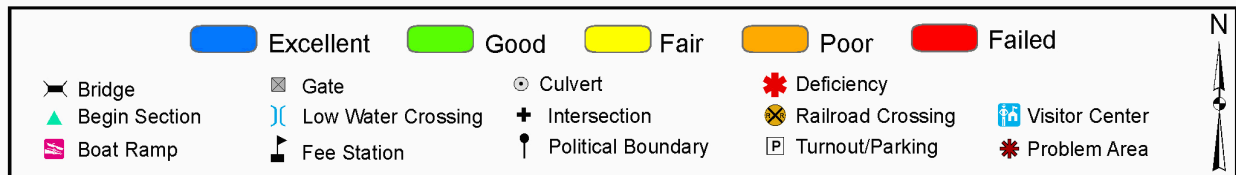


Route: 106 Refuge Information Loop #3

Total Route Length: **0.03 Miles**

Route Description: From Paul's Lake Road (Route 103) to end of loop at Paul's Lake Road (Route 103)

Asset Number	10008049
Section Number	001
Section Length (miles)	0.03
Inspection Date	05/11/2009
Section Information	
Surface Type	Gravel
Number of Lanes	1
Roadway Width (feet)	10.00
Roadway Condition Information	
Condition	Excellent
Remaining Service Life (years)	10
Cost Estimate	0
CRV	21,900.00

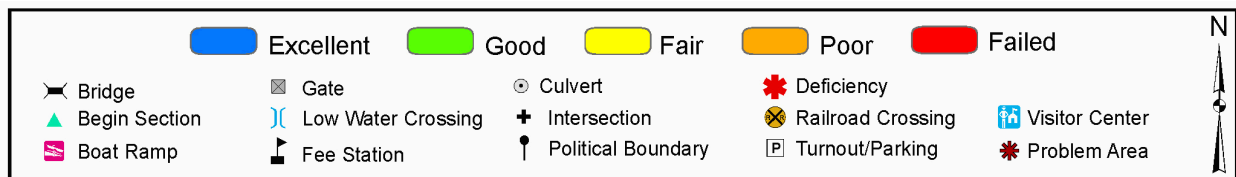
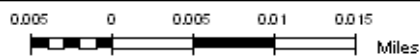
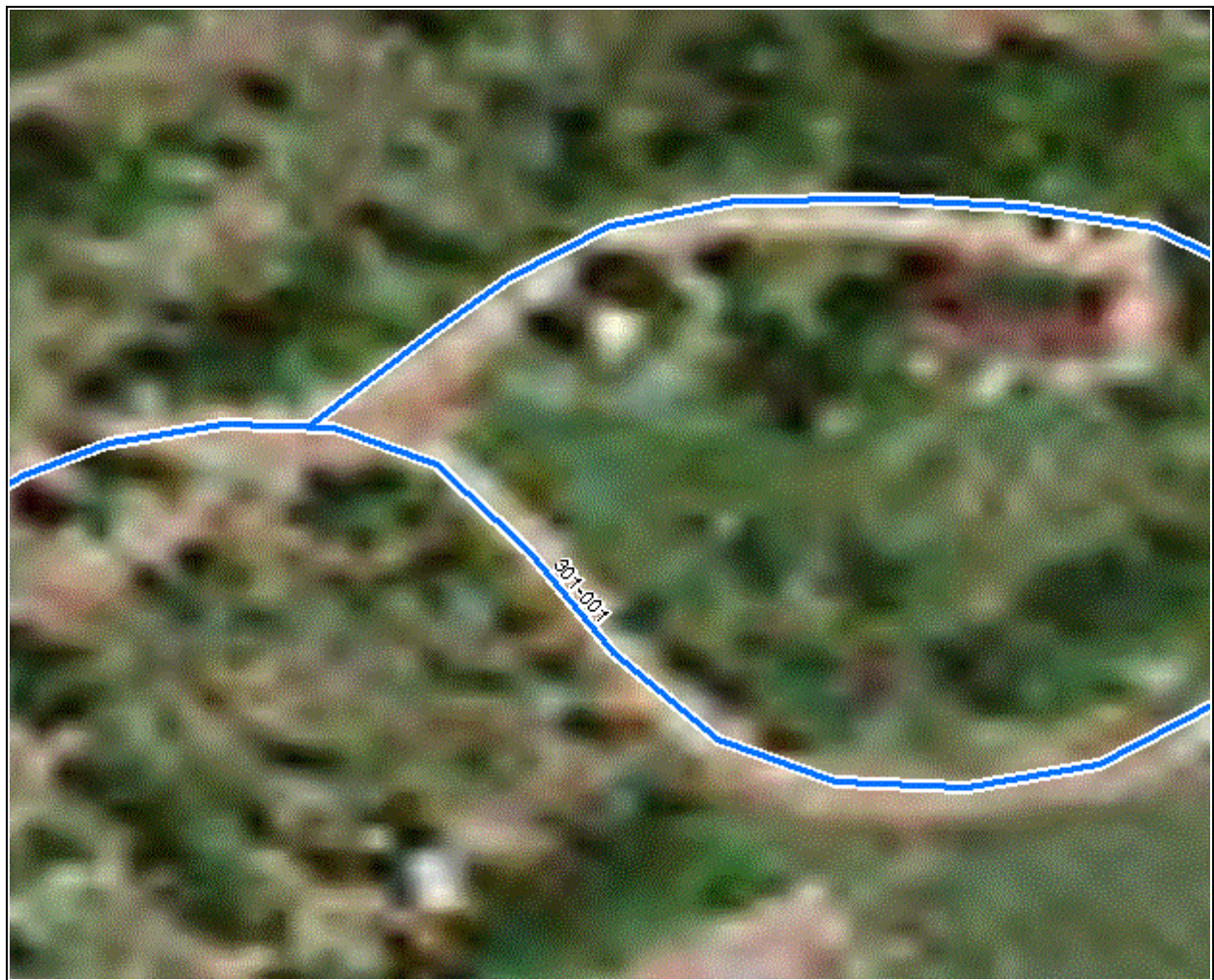


Route: 300 Maintenance Access Road

Total Route Length: **0.14 Miles**

Route Description: From Refuge Entrance Road (Route 010) to Visitor Center Parking (Route 900)

Asset Number	10008049	10008049
Section Number	001	002
Section Length (miles)	0.07	0.07
Inspection Date	05/11/2009	05/11/2009
Section Information		
Surface Type	Gravel	Gravel
Number of Lanes	1	1
Roadway Width (feet)	12.00	12.00
Roadway Condition Information		
Condition	Excellent	Excellent
Remaining Service Life (years)	10	10
Cost Estimate	0	0
CRV	46,900.00	46,200.00

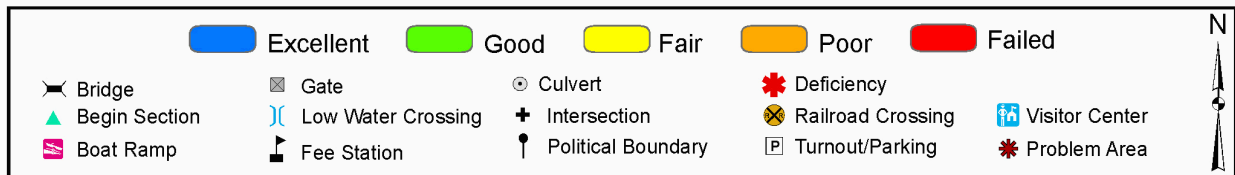


Route: 301 Residence Access Loop

Total Route Length: **0.16 Miles**

Route Description: From Refuge Entrance Road (Route 010) to end of loop

Asset Number	10008049
Section Number	001
Section Length (miles)	0.16
Inspection Date	05/11/2009
Section Information	
Surface Type	Gravel
Number of Lanes	1
Roadway Width (feet)	12.00
Roadway Condition Information	
Condition	Excellent
Remaining Service Life (years)	9
Cost Estimate	0
CRV	112,700.00

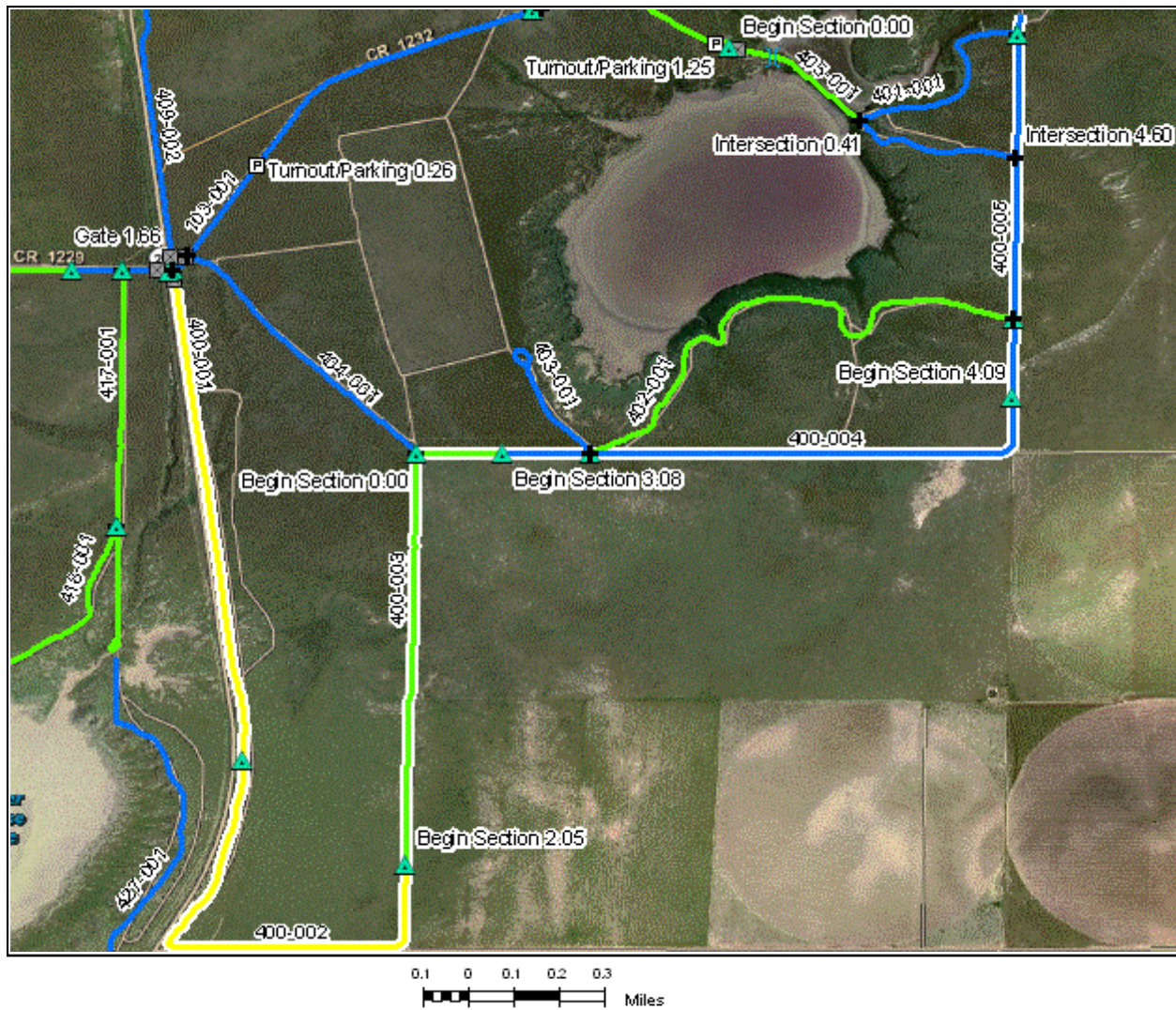


Route: 302 Boneyard Loop

Total Route Length: **0.20 Miles**

Route Description: From Refuge Entrance Road (Route 010) to end of loop

Asset Number	10008049
Section Number	001
Section Length (miles)	0.20
Inspection Date	05/11/2009
Section Information	
Surface Type	Gravel
Number of Lanes	1
Roadway Width (feet)	12.00
Roadway Condition Information	
Condition	Good
Remaining Service Life (years)	7
Cost Estimate	300
CRV	135,600.00

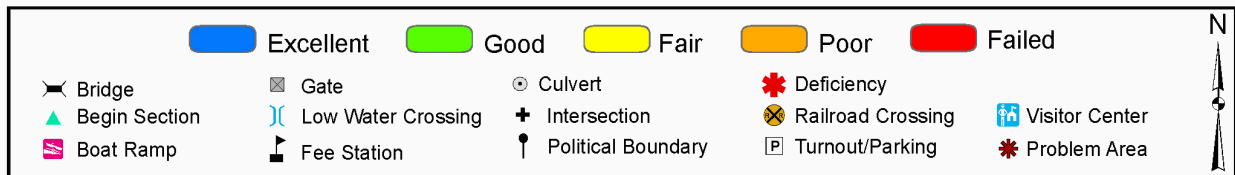
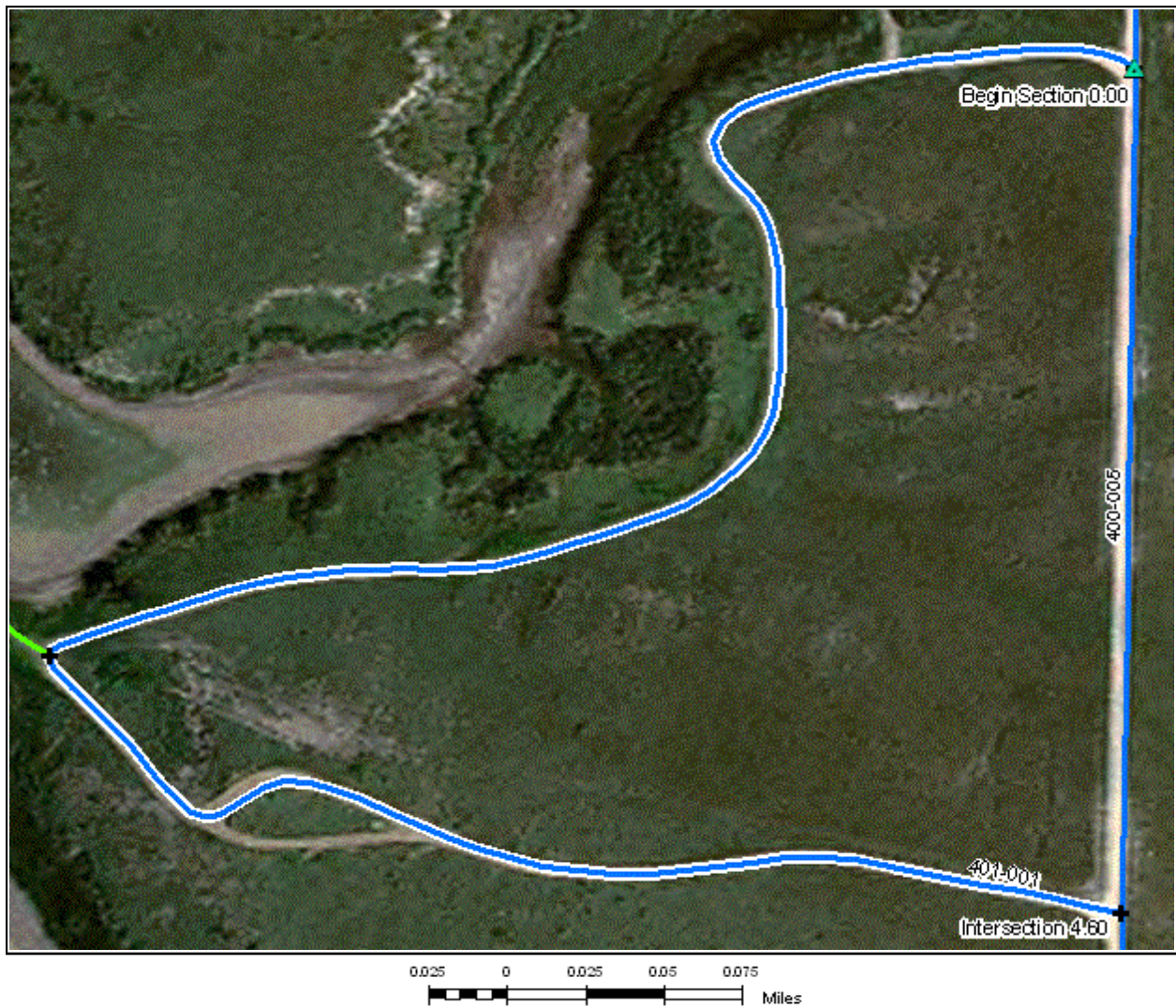


Route: 400 East Firebreak Road

Total Route Length: **4.90 Miles**

Route Description: From Paul's Lake Road (Route 103) to end of route at marsh

Asset Number	10047135	10047135	10047135	10047135	10047135
Section Number	001	002	003	004	005
Section Length (miles)	1.05	1.01	1.02	1.01	0.81
Inspection Date	05/11/2009	05/11/2009	05/11/2009	05/11/2009	05/11/2009
Section Information					
Surface Type	Native	Native	Native	Native	Native
Number of Lanes	1	1	1	1	1
Roadway Width (feet)	10.00	10.00	10.00	10.00	10.00
Roadway Condition Information					
Condition	Fair	Fair	Good	Excellent	Excellent
Remaining Service Life (years)	4	3	5	9	9
Cost Estimate	2,300	2,200	1,800	0	0
CRV	372,400.00	358,500.00	364,600.00	359,300.00	288,400.00

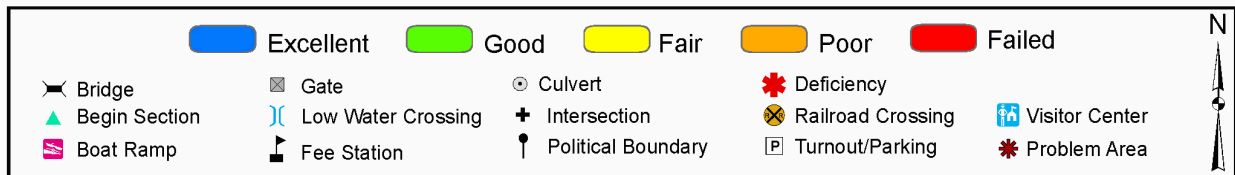
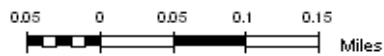


Route: 401 Pig Loop

Total Route Length: **0.73 Miles**

Route Description: From East Firebreak Road (Route 400) to end of loop at East Firebreak Road (Route 400)

Asset Number	10047135
Section Number	001
Section Length (miles)	0.73
Inspection Date	05/11/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	10.00
Roadway Condition Information	
Condition	Excellent
Remaining Service Life (years)	9
Cost Estimate	0
CRV	258,900.00

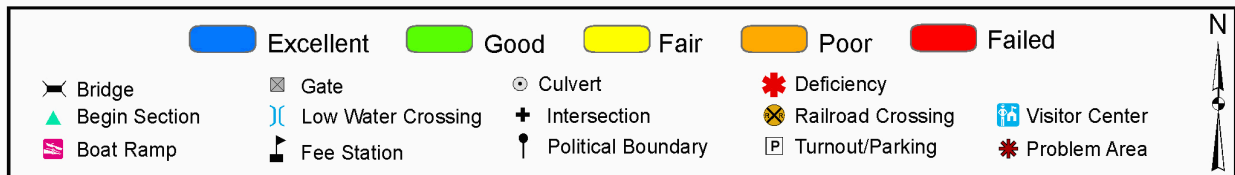


Route: 402 Running Pig Road

Total Route Length: **1.05 Miles**

Route Description: From East Firebreak Road (Route 400) to Paul's South Overlook Road (Route 403)

Asset Number	10047135
Section Number	001
Section Length (miles)	1.05
Inspection Date	05/11/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	10.00
Roadway Condition Information	
Condition	Good
Remaining Service Life (years)	7
Cost Estimate	1,800
CRV	372,700.00

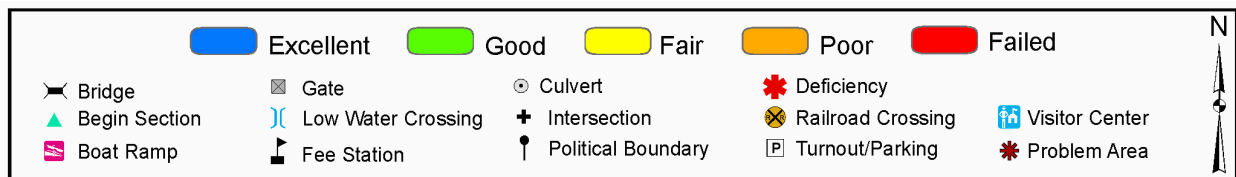
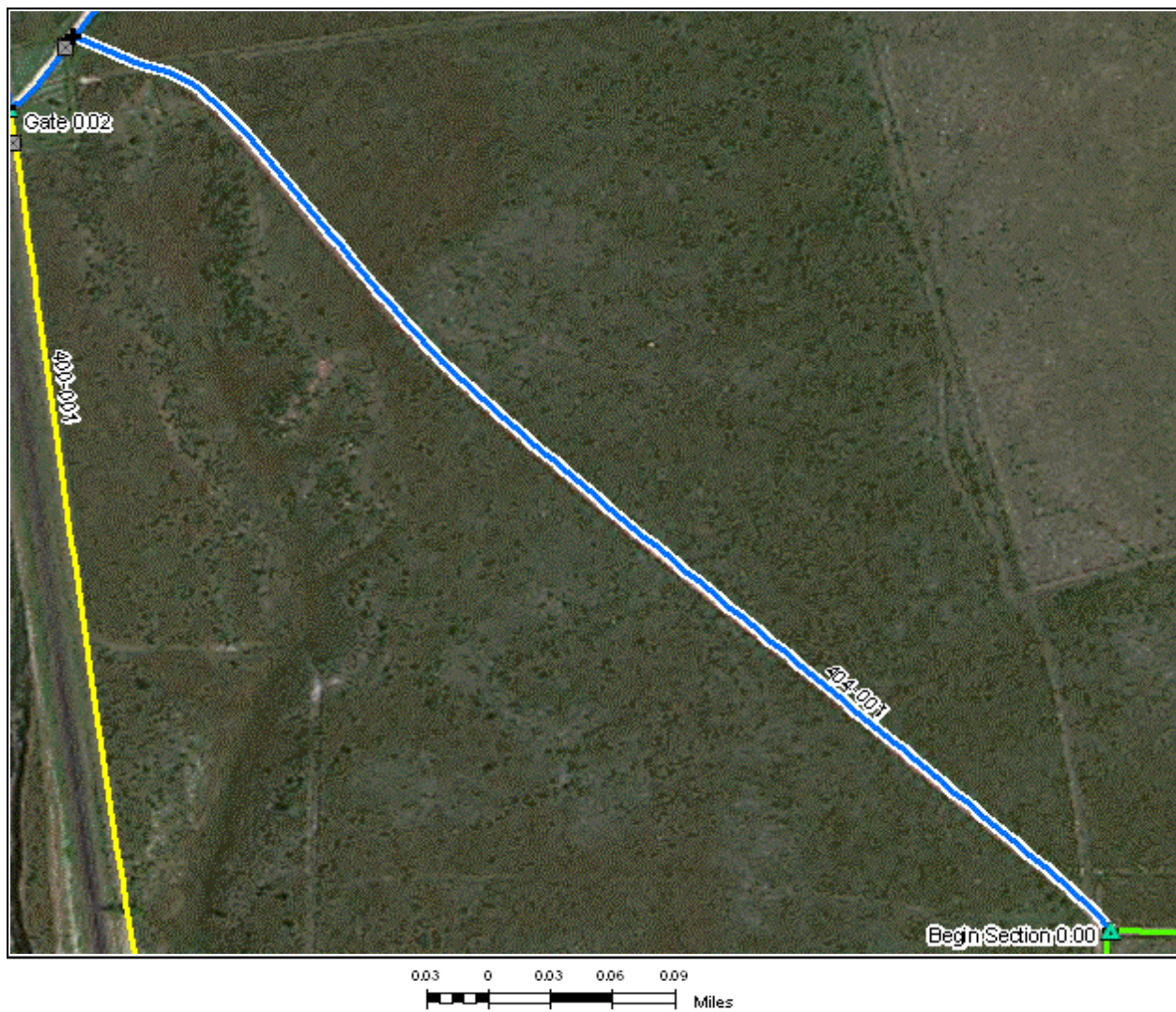


Route: 403 Paul's South Overlook Road

Total Route Length: **0.32 Miles**

Route Description: From East Firebreak Road (Route 400) to end of loop

Asset Number	10047135
Section Number	001
Section Length (miles)	0.32
Inspection Date	05/11/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	10.00
Roadway Condition Information	
Condition	Excellent
Remaining Service Life (years)	9
Cost Estimate	0
CRV	112,400.00

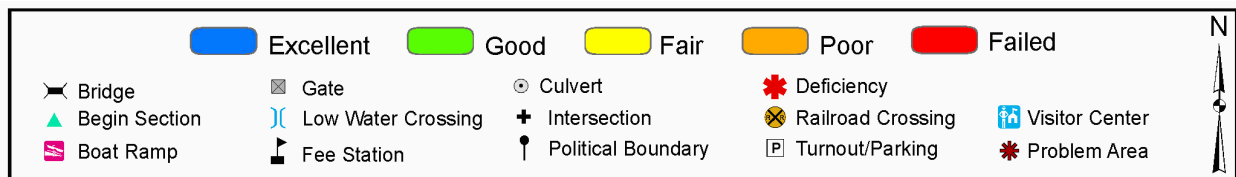
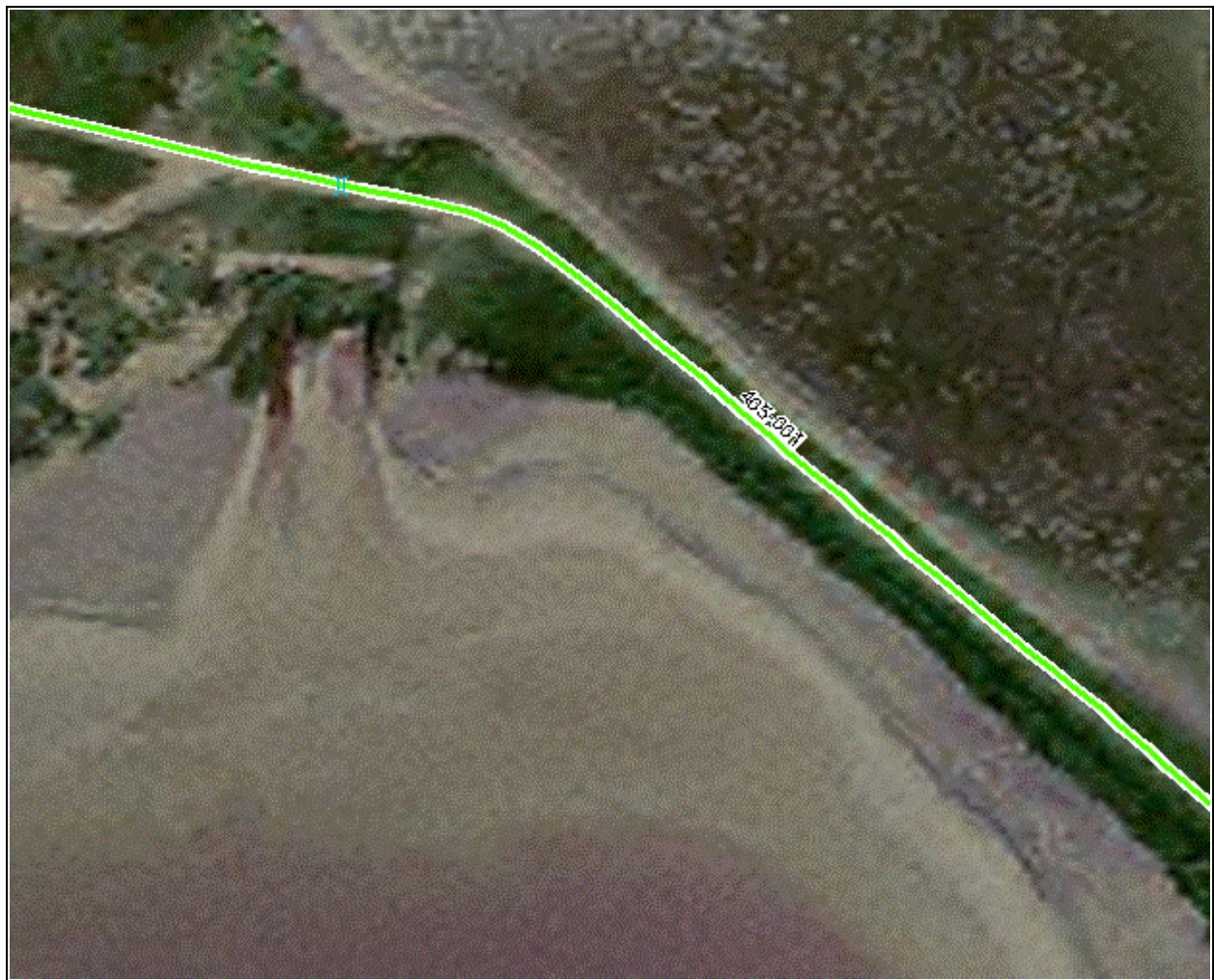


Route: 404 Trespass Road

Total Route Length: **0.59 Miles**

Route Description: From East Firebreak Road (Route 400) to Paul's Lake Road (Route 103)

Asset Number	10047135
Section Number	001
Section Length (miles)	0.59
Inspection Date	05/11/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	10.00
Roadway Condition Information	
Condition	Excellent
Remaining Service Life (years)	9
Cost Estimate	0
CRV	208,800.00

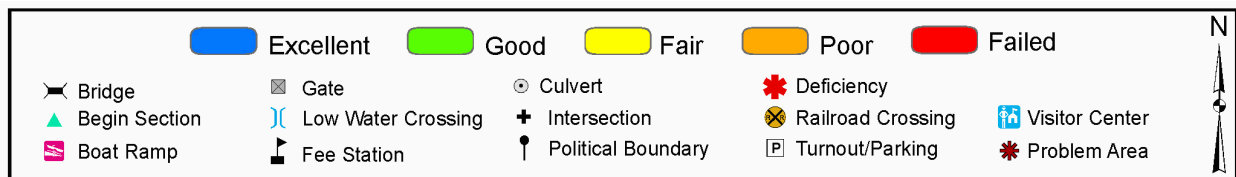


Route: 405 Paul's Lake Levee Road

Total Route Length: **0.29 Miles**

Route Description: From Pig Loop (Route 401) to Paul's Lake Parking (Route 904)

Asset Number	10008042
Section Number	001
Section Length (miles)	0.29
Inspection Date	05/11/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	10.00
Roadway Condition Information	
Condition	Good
Remaining Service Life (years)	7
Cost Estimate	500
CRV	101,700.00

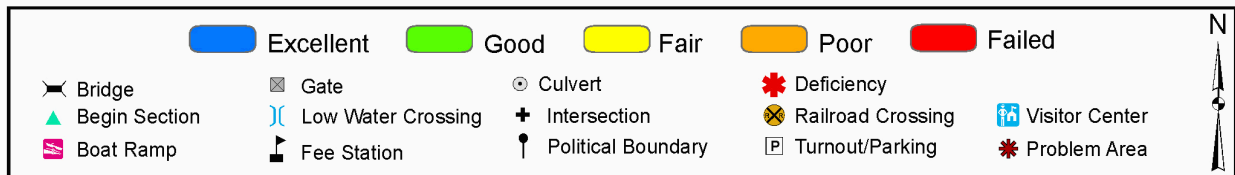
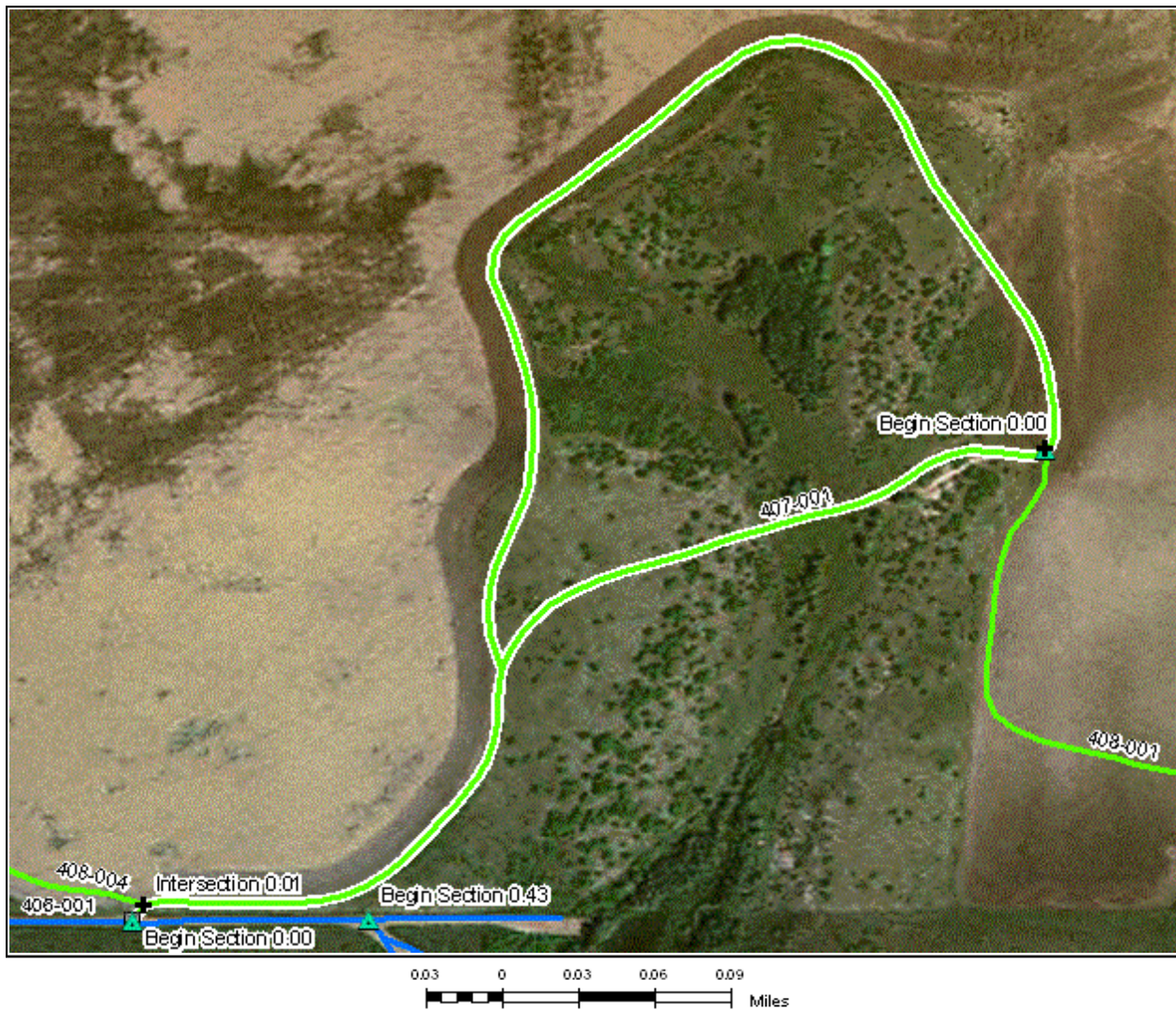


Route: 406 Caswell Road

Total Route Length: **0.52 Miles**

Route Description: From Paul's Lake Road (Route 103) to end of route at Paul's Lake

Asset Number	10047135	10047135
Section Number	001	002
Section Length (miles)	0.43	0.09
Inspection Date	05/11/2009	05/11/2009
Section Information		
Surface Type	Native	Native
Number of Lanes	1	1
Roadway Width (feet)	10.00	10.00
Roadway Condition Information		
Condition	Excellent	Excellent
Remaining Service Life (years)	9	10
Cost Estimate	0	0
CRV	152,200.00	32,400.00

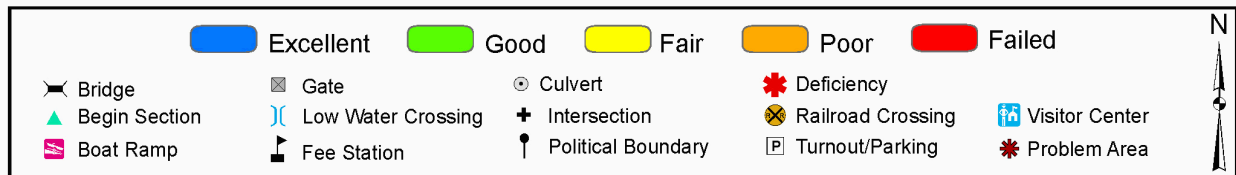
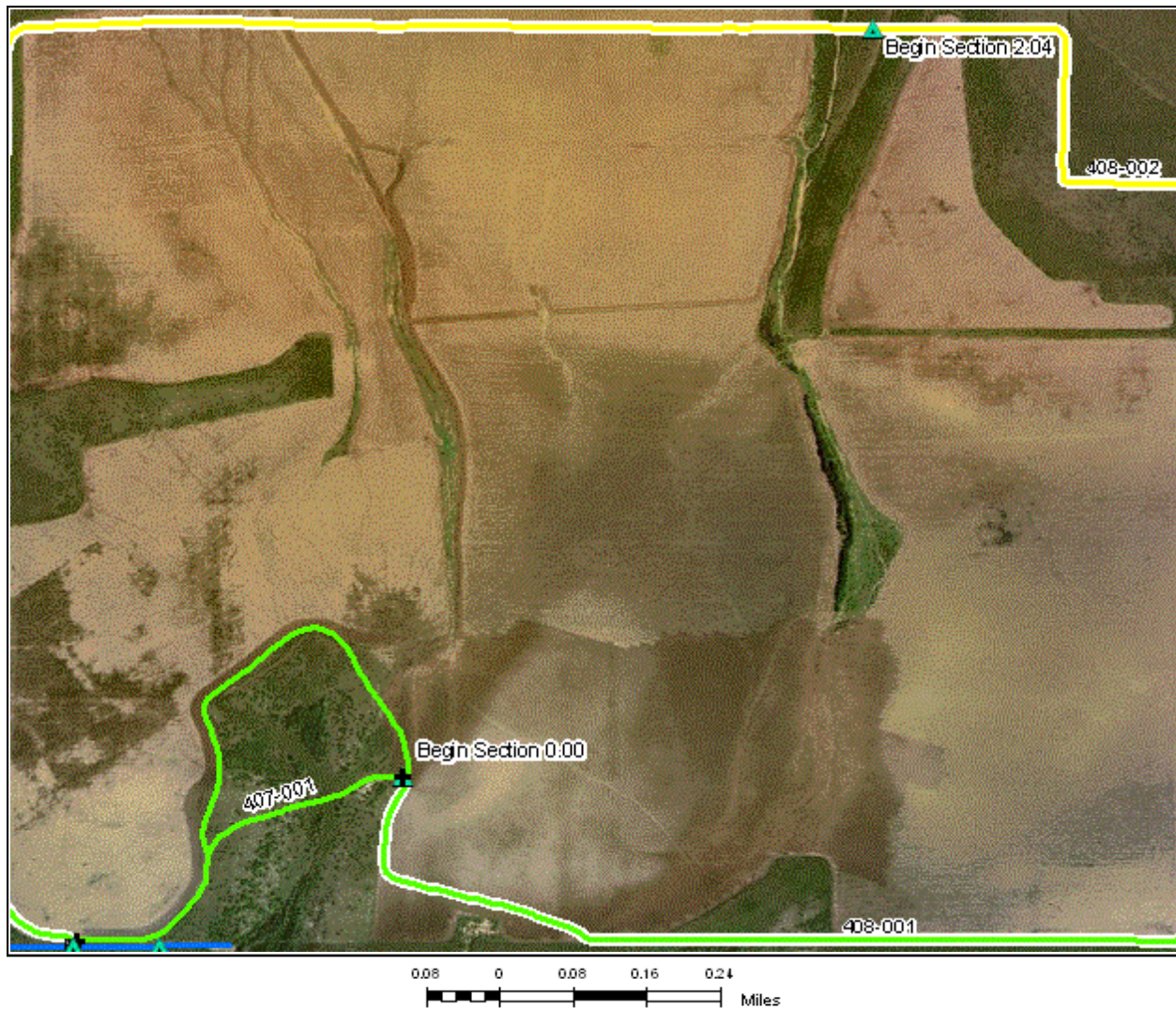


Route: 407 Black Spring Road

Total Route Length: **0.85 Miles**

Route Description: From Caswell Road (Route 406) to end of loop

Asset Number	10047135
Section Number	001
Section Length (miles)	0.85
Inspection Date	05/11/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	10.00
Roadway Condition Information	
Condition	Good
Remaining Service Life (years)	7
Cost Estimate	1,500
CRV	303,500.00

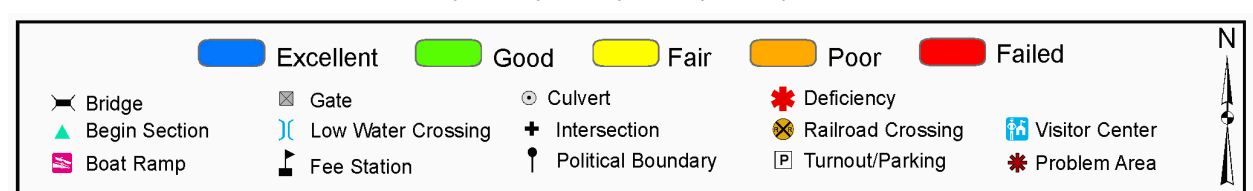


Route: 408 New Aquisition Road

Total Route Length: **3.80 Miles**

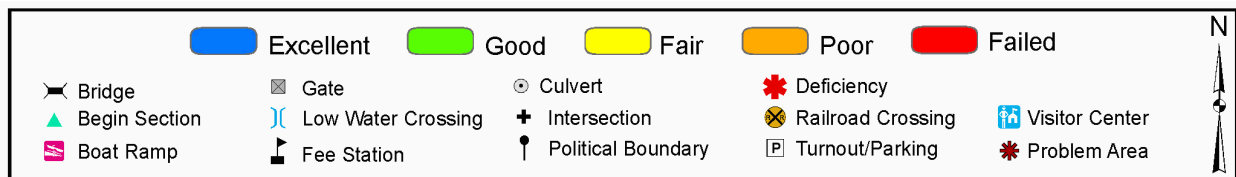
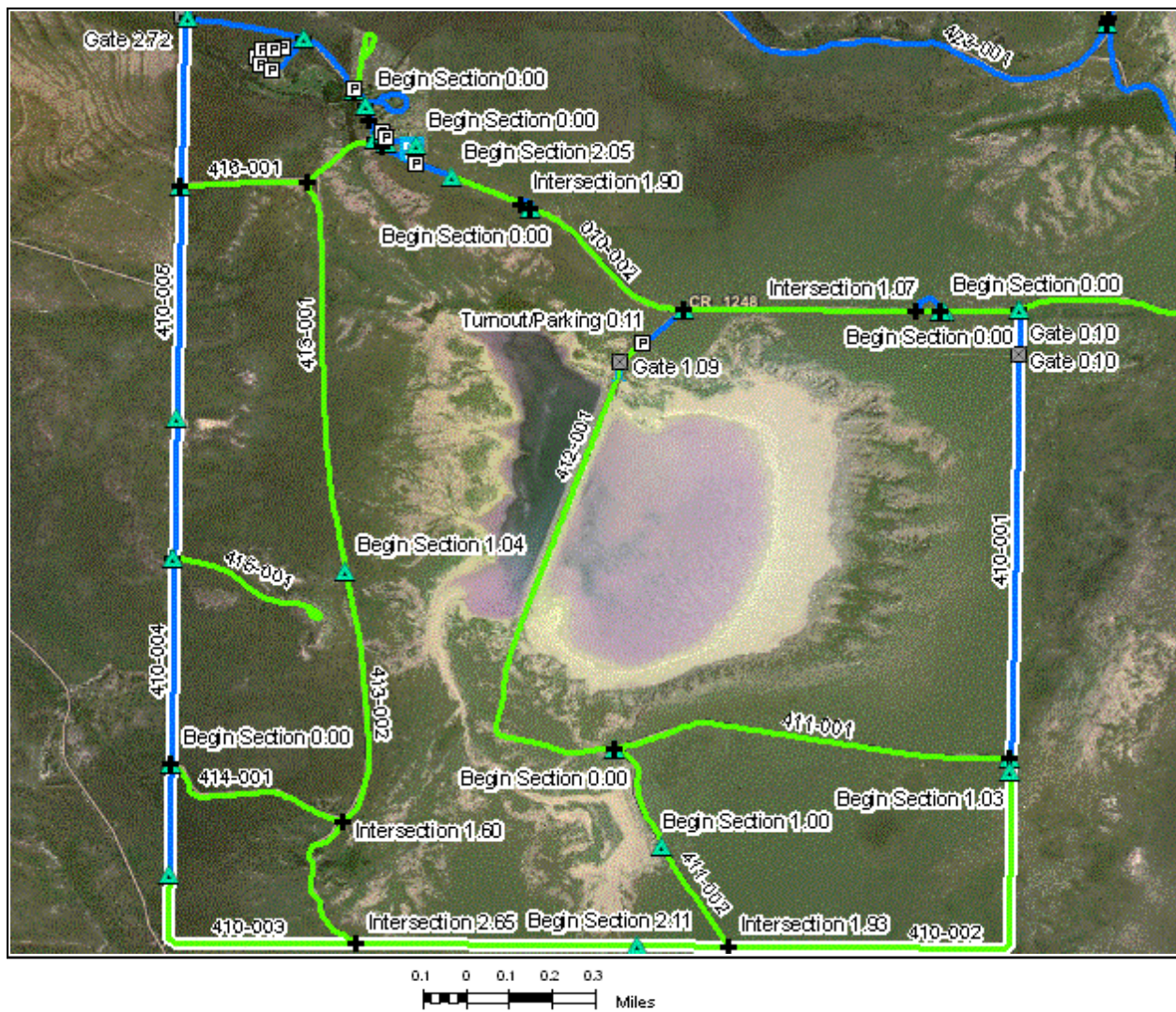
Route Description: From Black Spring Road (Route 407) to end of loop at Black Spring Road (Route 407)

Asset Number	10047135	10047135	10047135	10047135
Section Number	001	002	003	004
Section Length (miles)	1.04	1.00	1.02	0.74
Inspection Date	05/11/2009	05/11/2009	05/11/2009	05/11/2009
Section Information				
Surface Type	Native	Native	Native	Native
Number of Lanes	1	1	1	1
Roadway Width (feet)	10.00	10.00	10.00	10.00
Roadway Condition Information				
Condition	Good	Fair	Fair	Good
Remaining Service Life (years)	7	3	3	5
Cost Estimate	1,800	2,200	2,200	1,300
CRV	369,200.00	357,500.00	363,500.00	261,800.00



Total Route Length: 1.69 Miles

Asset Number	10047135	10047135
Section Number	001	002
Section Length (miles)	1.02	0.66
Inspection Date	05/11/2009	05/11/2009
Section Information		
Surface Type	Native	Native
Number of Lanes	1	1
Roadway Width (feet)	10.00	10.00
Roadway Condition Information		
Condition	Good	Excellent
Remaining Service Life (years)	7	9
Cost Estimate	1,800	0
CRV	363,700.00	236,500.00

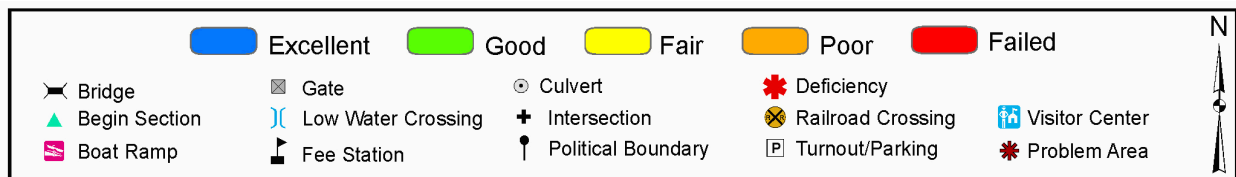
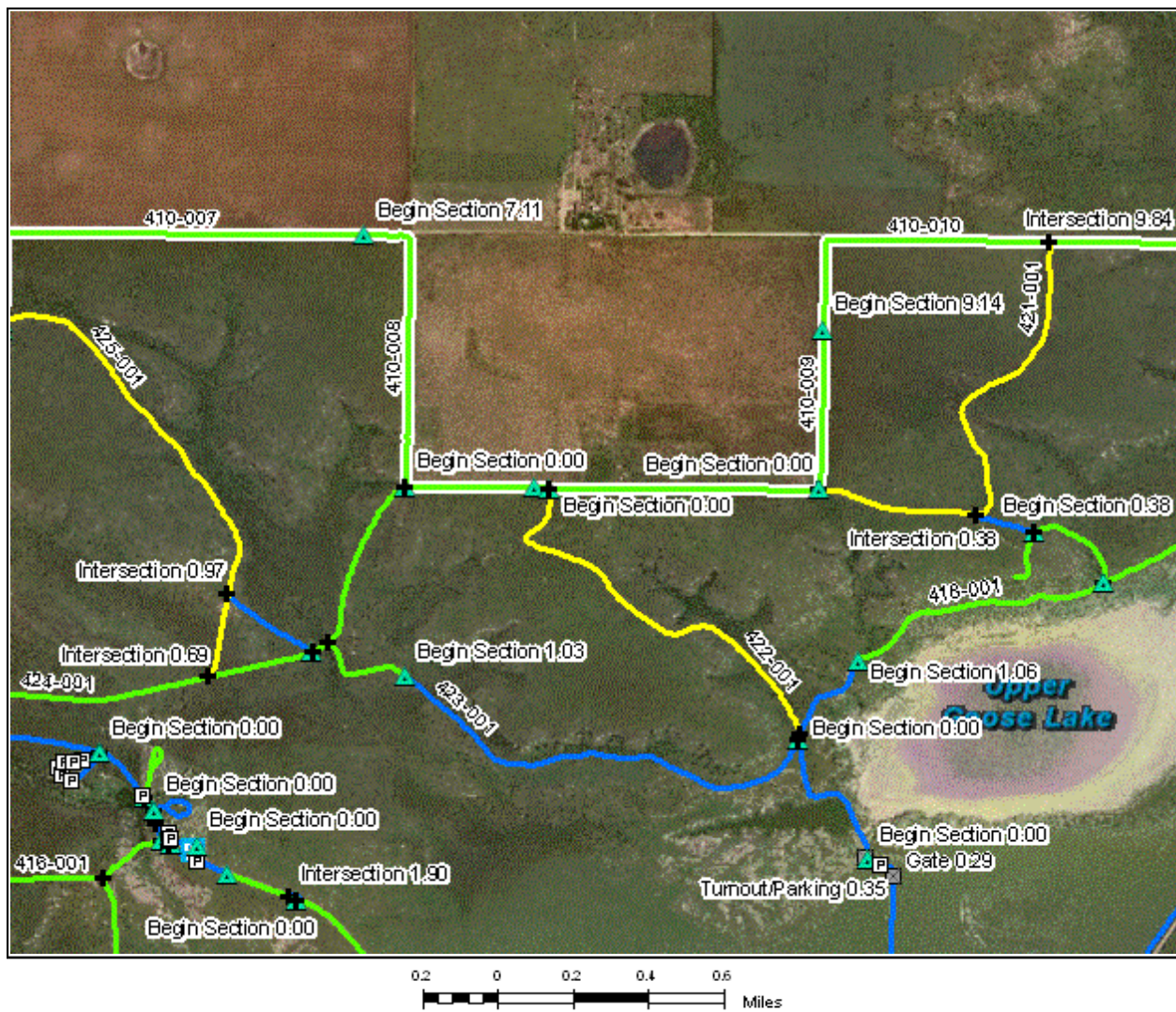


Route: 410 Boundary Firebreak Road

Total Route Length: **10.31 Miles**

Route Description: From Refuge Entrance Road (Route 010) to gate at State Highway 214

Asset Number	10047135	10047135	10047135	10047135	10047135
Section Number	001	002	003	004	005
Section Length (miles)	1.03	1.08	1.02	1.02	0.90
Inspection Date	05/11/2009	05/11/2009	05/11/2009	05/11/2009	05/12/2009
Section Information					
Surface Type	Native	Native	Native	Native	Native
Number of Lanes	1	1	1	1	1
Roadway Width (feet)	10.00	10.00	10.00	10.00	10.00
Roadway Condition Information					
Condition	Excellent	Good	Good	Excellent	Excellent
Remaining Service Life (years)	9	7	5	9	9
Cost Estimate	0	1,900	1,800	0	0
CRV	367,600.00	384,400.00	364,000.00	362,300.00	319,400.00

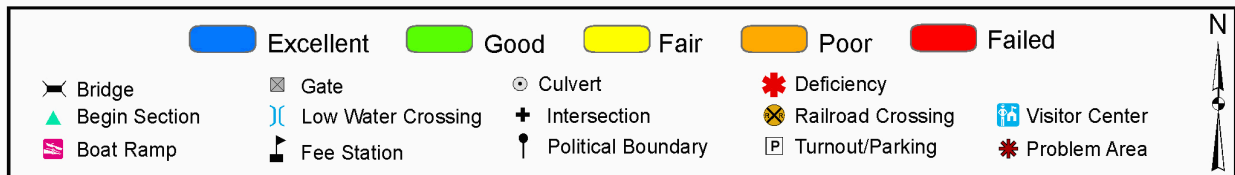


Route: 410 Boundary Firebreak Road

Total Route Length: **10.31 Miles**

Route Description: From Refuge Entrance Road (Route 010) to gate at State Highway 214

Asset Number	10047135	10047135	10047135	10047135	10047135
Section Number	006	007	008	009	010
Section Length (miles)	1.04	1.02	1.01	1.02	1.01
Inspection Date	05/12/2009	05/12/2009	05/12/2009	05/12/2009	05/12/2009
Section Information					
Surface Type	Native	Native	Native	Native	Native
Number of Lanes	1	1	1	1	1
Roadway Width (feet)	10.00	10.00	10.00	10.00	10.00
Roadway Condition Information					
Condition	Excellent	Good	Good	Good	Good
Remaining Service Life (years)	9	5	7	7	5
Cost Estimate	0	1,700	1,700	1,800	1,700
CRV	370,000.00	361,500.00	359,800.00	363,300.00	360,100.00

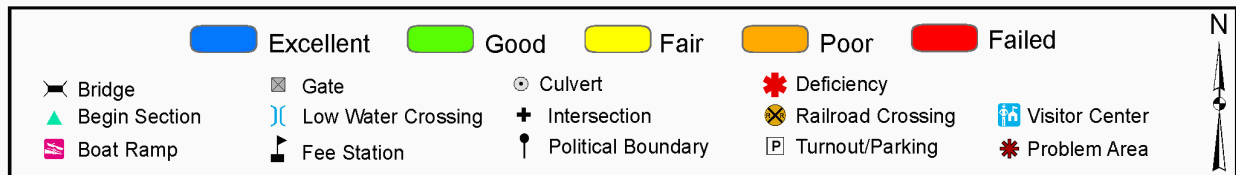


Route: 410 Boundary Firebreak Road

Total Route Length: **10.31 Miles**

Route Description: From Refuge Entrance Road (Route 010) to gate at State Highway 214

Asset Number	10047135
Section Number	011
Section Length (miles)	0.16
Inspection Date	05/12/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	10.00
Roadway Condition Information	
Condition	Excellent
Remaining Service Life (years)	9
Cost Estimate	0
CRV	55,900.00

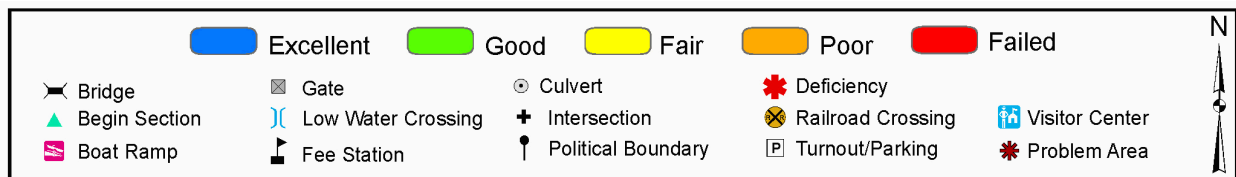


Route: 411 Playa Road

Total Route Length: **1.26 Miles**

Route Description: From Boundary Firebreak Road (Route 410) to Boundary Firebreak Road (Route 410)

Asset Number	10047135	10047135
Section Number	001	002
Section Length (miles)	1.00	0.26
Inspection Date	05/11/2009	05/11/2009
Section Information		
Surface Type	Native	Native
Number of Lanes	1	1
Roadway Width (feet)	14.00	14.00
Roadway Condition Information		
Condition	Good	Good
Remaining Service Life (years)	7	7
Cost Estimate	1,700	400
CRV	356,600.00	90,900.00

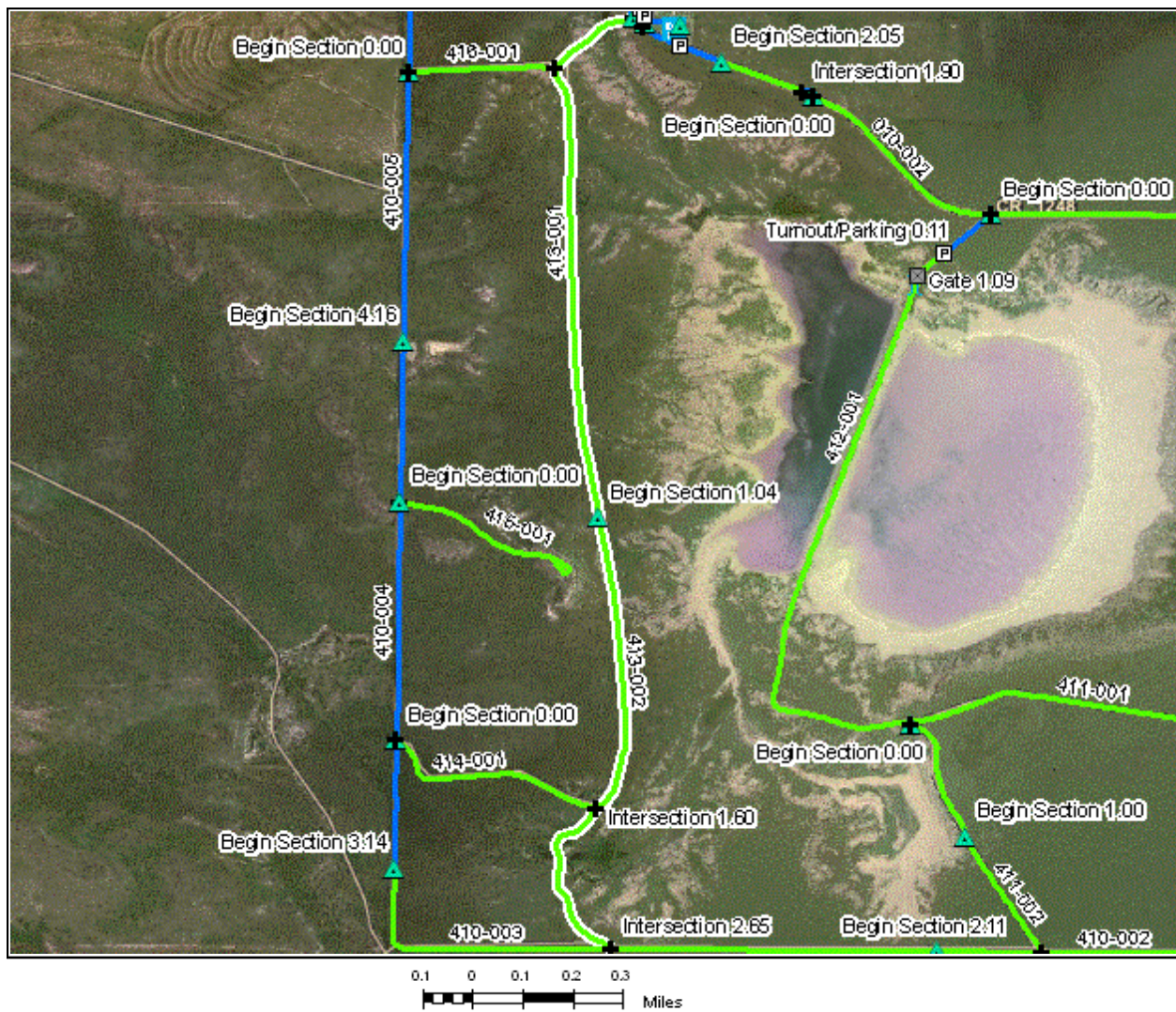


Route: 412 White Lake Levee Road

Total Route Length: **1.14 Miles**

Route Description: From Playa Road (Route 411) to White Lake Parking Area (Route 902)

Asset Number	10008043
Section Number	001
Section Length (miles)	1.14
Inspection Date	05/11/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	14.00
Roadway Condition Information	
Condition	Good
Remaining Service Life (years)	7
Cost Estimate	2,000
CRV	405,600.00

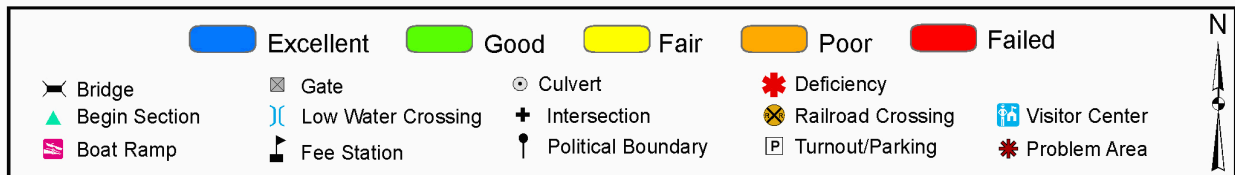
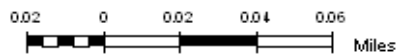


Route: 413 White Lake Road

Total Route Length: **1.95 Miles**

Route Description: From Refuge Entrance Road (Route 010) to Boundary Firebreak Road (Route 410)

Asset Number	10047135	10047135
Section Number	001	002
Section Length (miles)	1.04	0.91
Inspection Date	05/11/2009	05/11/2009
Section Information		
Surface Type	Native	Native
Number of Lanes	1	1
Roadway Width (feet)	14.00	14.00
Roadway Condition Information		
Condition	Good	Good
Remaining Service Life (years)	7	7
Cost Estimate	1,800	1,600
CRV	369,200.00	325,000.00



Route: 414 Enoch Road

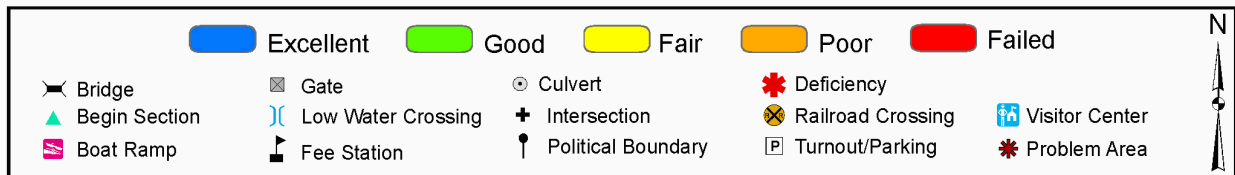
Total Route Length: **0.38 Miles**

Route Description: From Boundary Firebreak Road (Route 410) to White Lake Road (Route 413)

Asset Number	10047135
Section Number	001
Section Length (miles)	0.38
Inspection Date	05/11/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	14.00
Roadway Condition Information	
Condition	Good
Remaining Service Life (years)	7
Cost Estimate	700
CRV	136,200.00



0.01 0 0.01 0.02 0.03 Miles

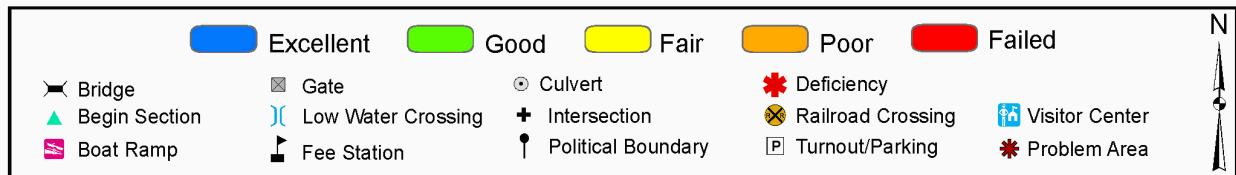
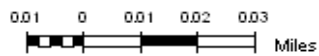


Route: 415 Perch Road

Total Route Length: **0.36 Miles**

Route Description: From Boundary Firebreak Road (Route 410) to end of loop

Asset Number	10047135
Section Number	001
Section Length (miles)	0.36
Inspection Date	05/11/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	14.00
Roadway Condition Information	
Condition	Good
Remaining Service Life (years)	7
Cost Estimate	600
CRV	126,900.00

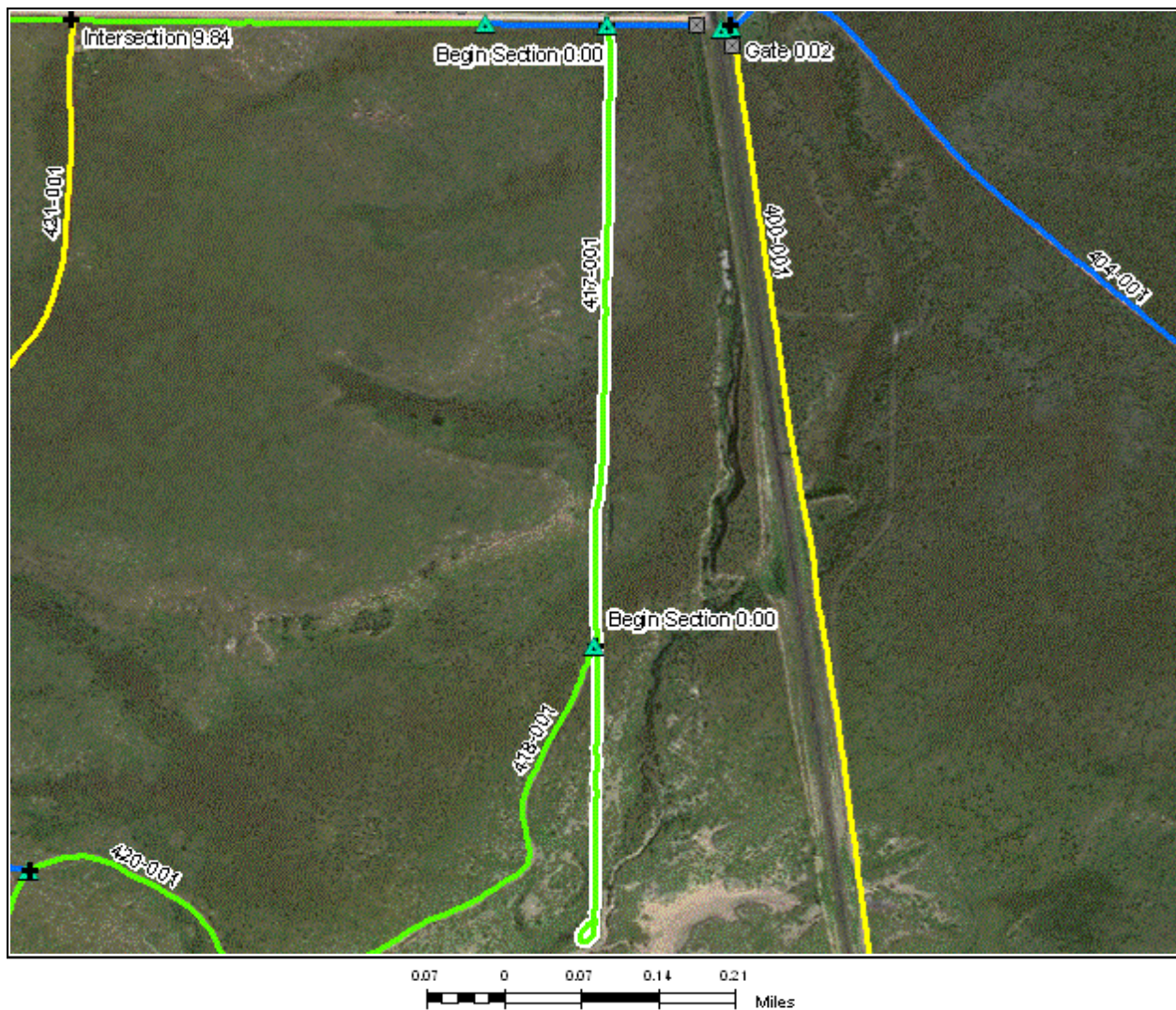


Route: 416 White Lake Boundary Connector

Total Route Length: **0.24 Miles**

Route Description: From Boundary Firebreak Road (Route 410) to White Lake Road (Route 413)

Asset Number	10047135
Section Number	001
Section Length (miles)	0.24
Inspection Date	05/11/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	14.00
Roadway Condition Information	
Condition	Good
Remaining Service Life (years)	7
Cost Estimate	400
CRV	83,700.00

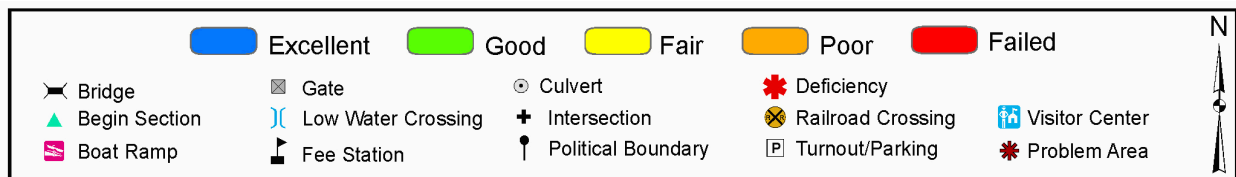
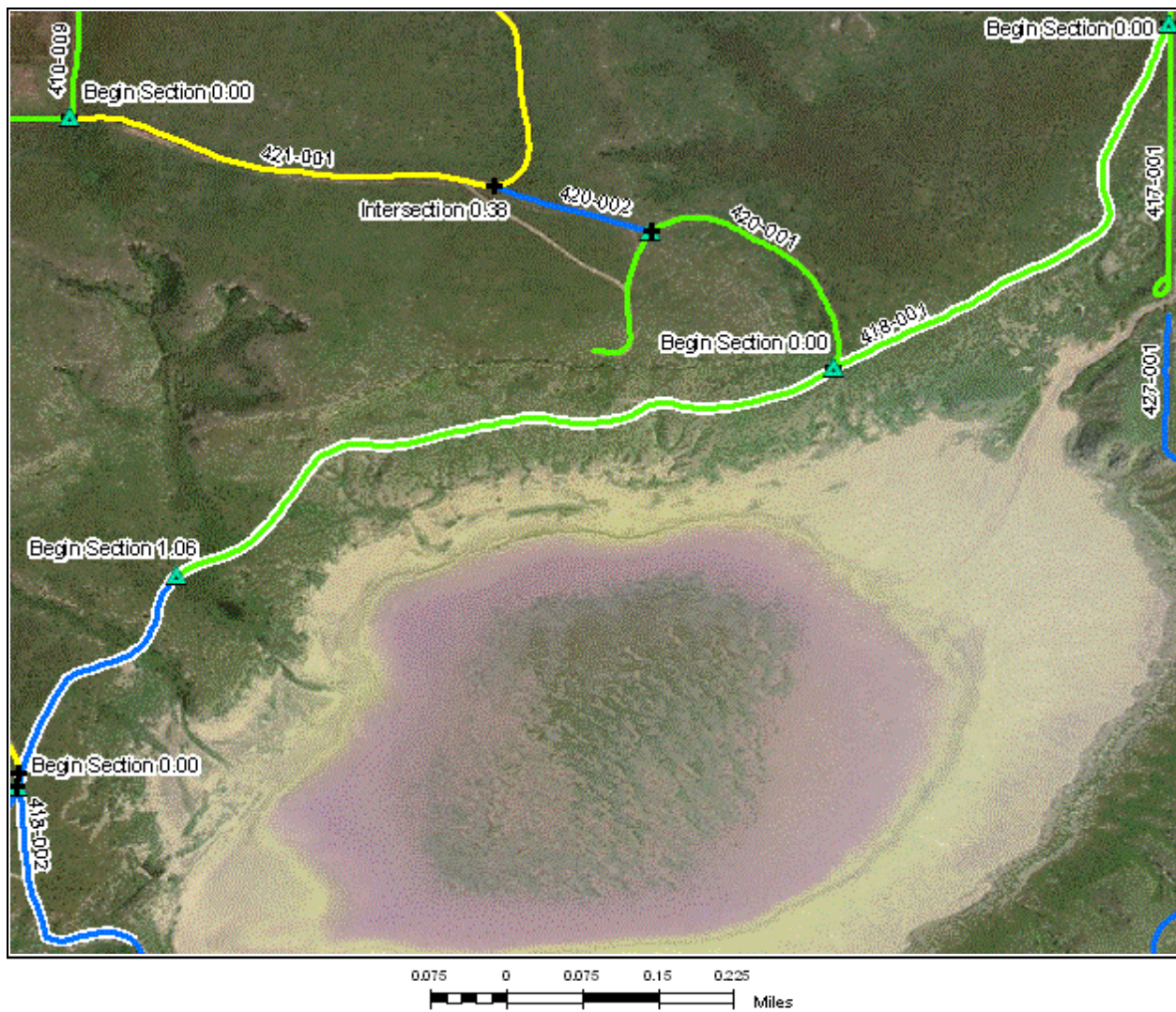


Route: 417 North Goose Overlook Road

Total Route Length: **0.83 Miles**

Route Description: From Refuge Boundary Road (Route 410) to end of loop at creek

Asset Number	10047135
Section Number	001
Section Length (miles)	0.83
Inspection Date	05/12/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	10.00
Roadway Condition Information	
Condition	Good
Remaining Service Life (years)	7
Cost Estimate	1,400
CRV	295,800.00

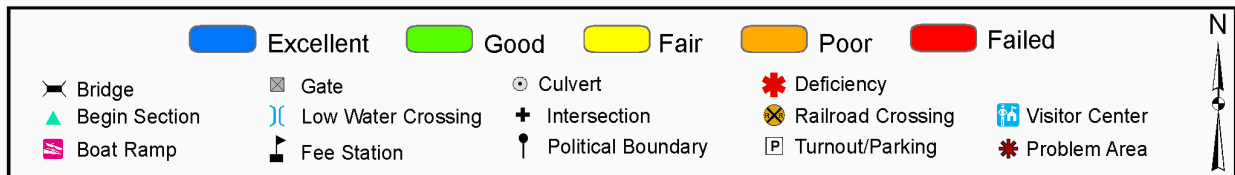


Route: 418 Service Use Goose Lake Road

Total Route Length: **1.53 Miles**

Route Description: From North Goose Overlook Road (Route 417) to Goose Lake Levee Road (Route 419)

Asset Number	10047135	10047135
Section Number	001	002
Section Length (miles)	1.06	0.48
Inspection Date	05/12/2009	05/12/2009
Section Information		
Surface Type	Native	Native
Number of Lanes	1	1
Roadway Width (feet)	10.00	10.00
Roadway Condition Information		
Condition	Good	Excellent
Remaining Service Life (years)	7	9
Cost Estimate	1,800	0
CRV	375,900.00	169,100.00

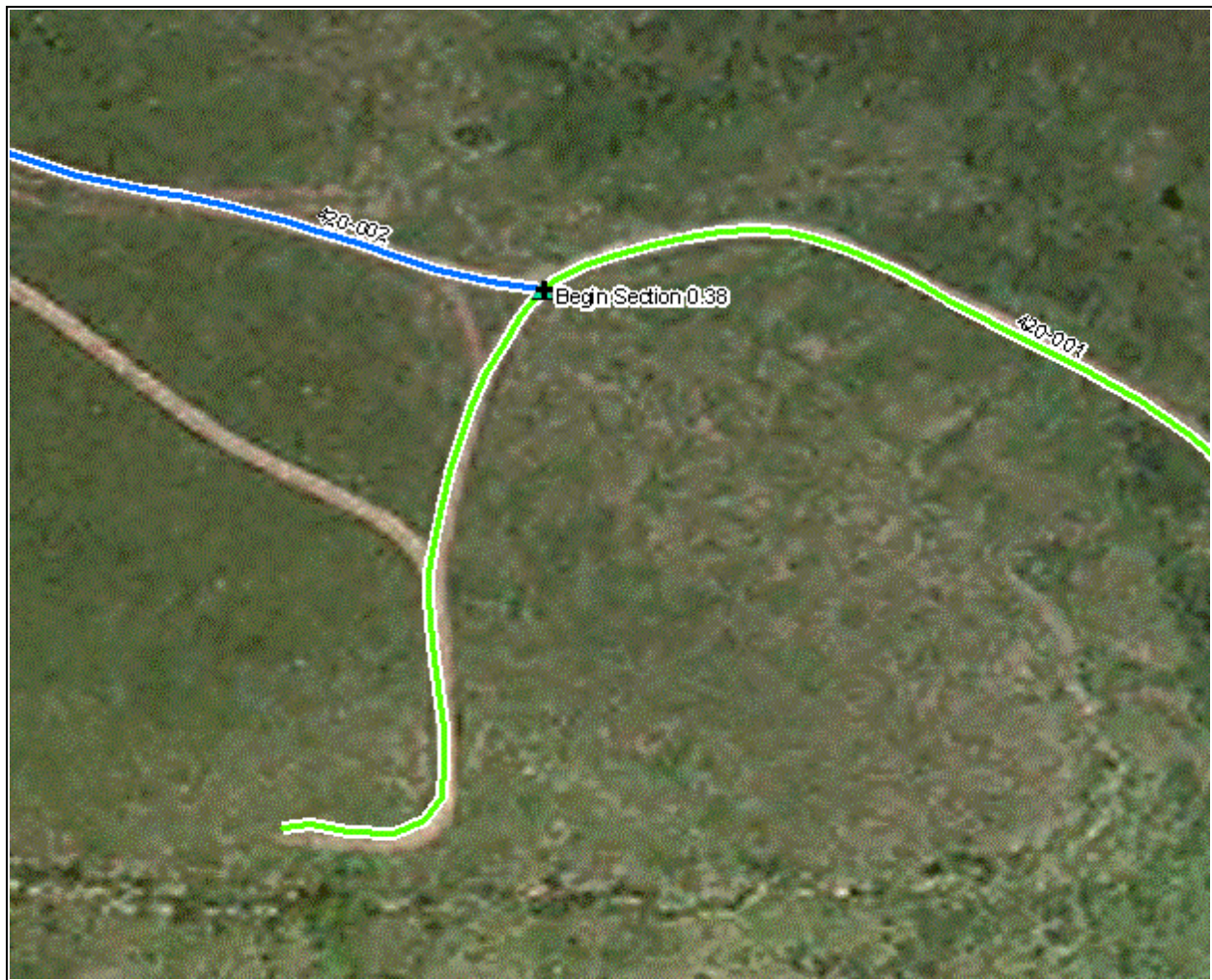


Route: 419 Goose Lake Levee Road

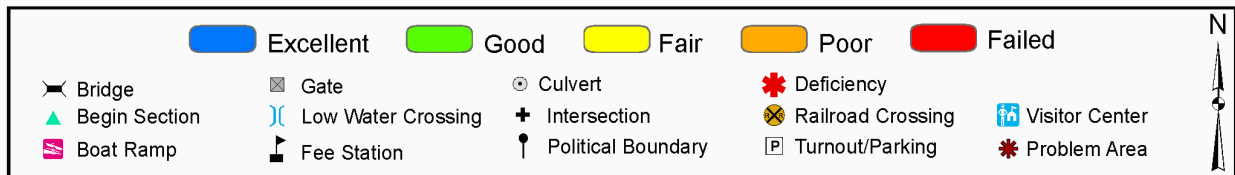
Total Route Length: **0.17 Miles**

Route Description: From Goose Lake Parking Area (Route 903) to Service Use Goose Lake Road (Route 418)

Asset Number	10008041
Section Number	001
Section Length (miles)	0.17
Inspection Date	05/12/2009
Section Information	
Surface Type	Gravel
Number of Lanes	1
Roadway Width (feet)	12.00
Roadway Condition Information	
Condition	Excellent
Remaining Service Life (years)	9
Cost Estimate	0
CRV	116,900.00



0.01 0 0.01 0.02 0.03 Miles

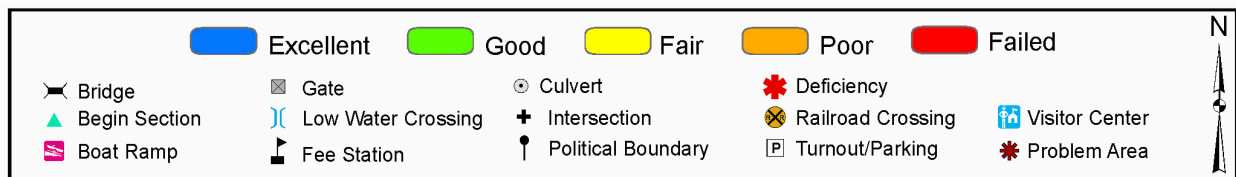
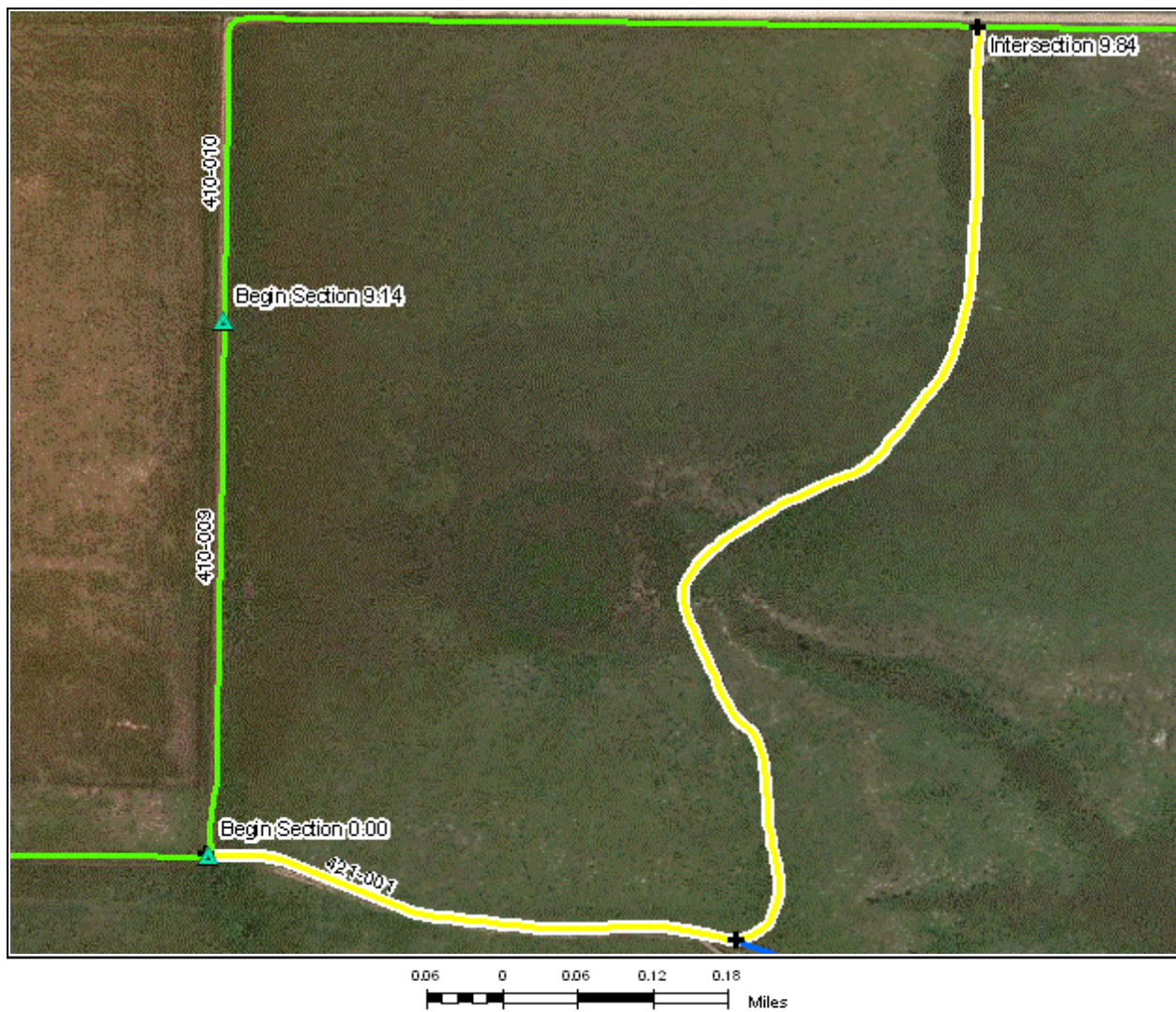


Route: 420 Hill Top Road

Total Route Length: **0.52 Miles**

Route Description: From Service Use Goose Lake Road (Route 418) to end of route

Asset Number	10047135	10047135
Section Number	001	002
Section Length (miles)	0.38	0.13
Inspection Date	05/12/2009	05/12/2009
Section Information		
Surface Type	Native	Native
Number of Lanes	1	1
Roadway Width (feet)	10.00	10.00
Roadway Condition Information		
Condition	Good	Excellent
Remaining Service Life (years)	7	10
Cost Estimate	700	0
CRV	136,800.00	47,200.00

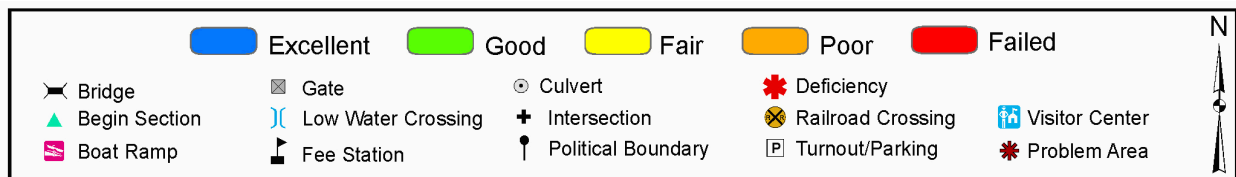


Route: 421 Curve Road

Total Route Length: **1.16 Miles**

Route Description: From Boundary Firebreak Road (Route 410) to Boundary Firebreak Road (Route 410)

Asset Number	10047135
Section Number	001
Section Length (miles)	1.16
Inspection Date	05/12/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	10.00
Roadway Condition Information	
Condition	Fair
Remaining Service Life (years)	4
Cost Estimate	2,500
CRV	411,300.00

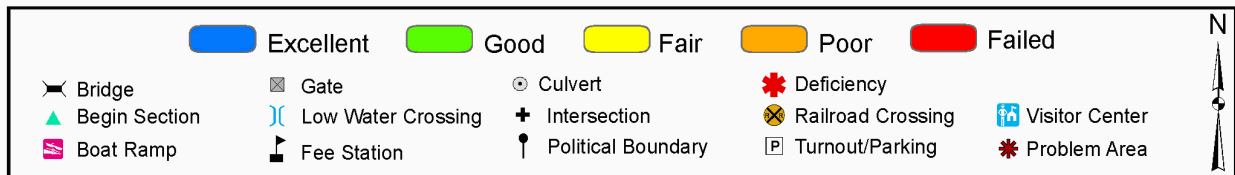
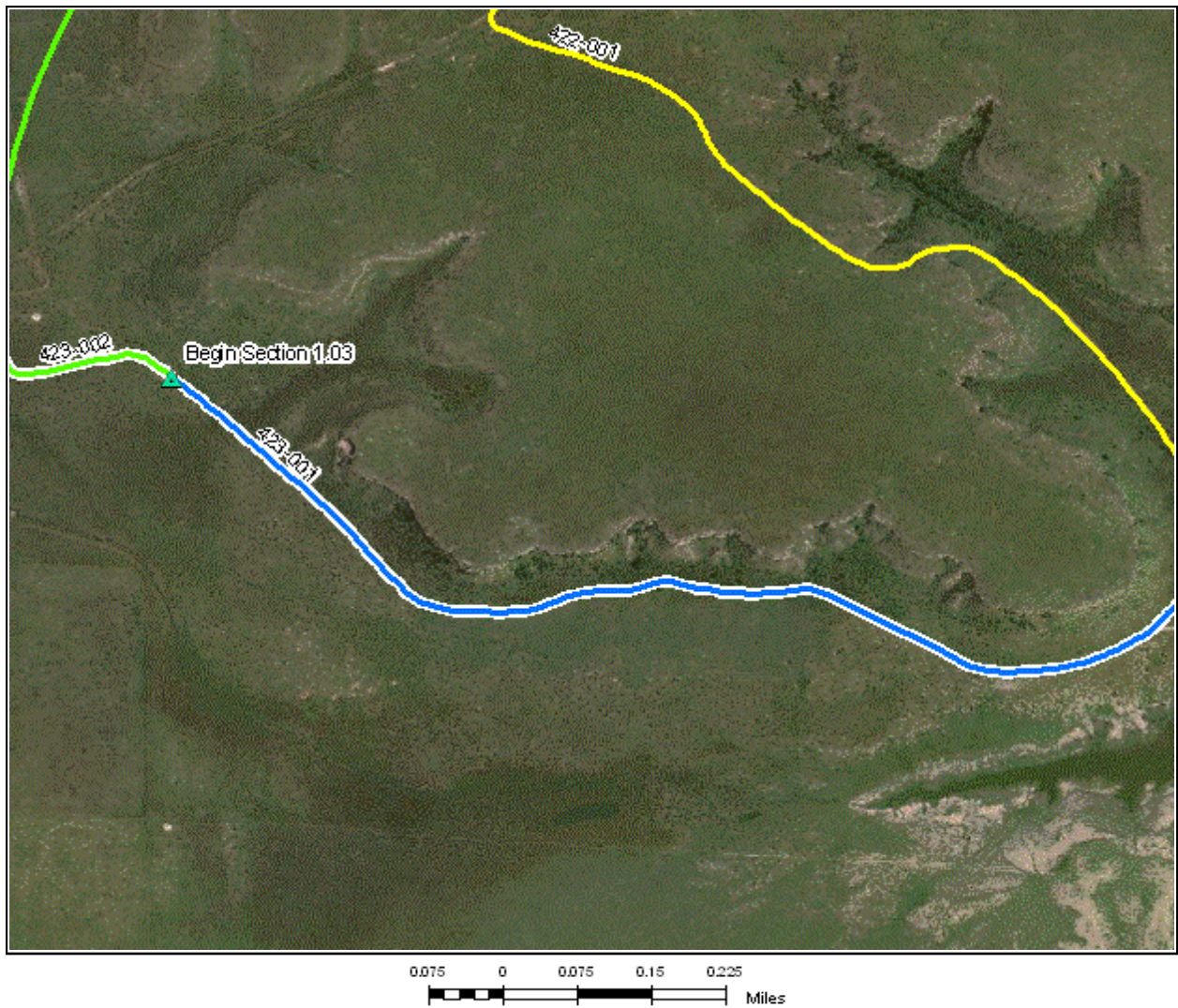


Route: 422 Running Buck Road

Total Route Length: **0.99 Miles**

Route Description: From Boundary Firebreak Road (Route 410) to Service Use Goose Lake Road (Route 418)

Asset Number	10047135
Section Number	001
Section Length (miles)	0.99
Inspection Date	05/12/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	10.00
Roadway Condition Information	
Condition	Fair
Remaining Service Life (years)	4
Cost Estimate	2,100
CRV	350,700.00

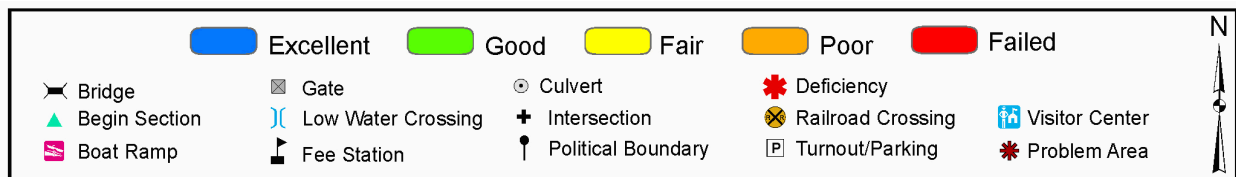
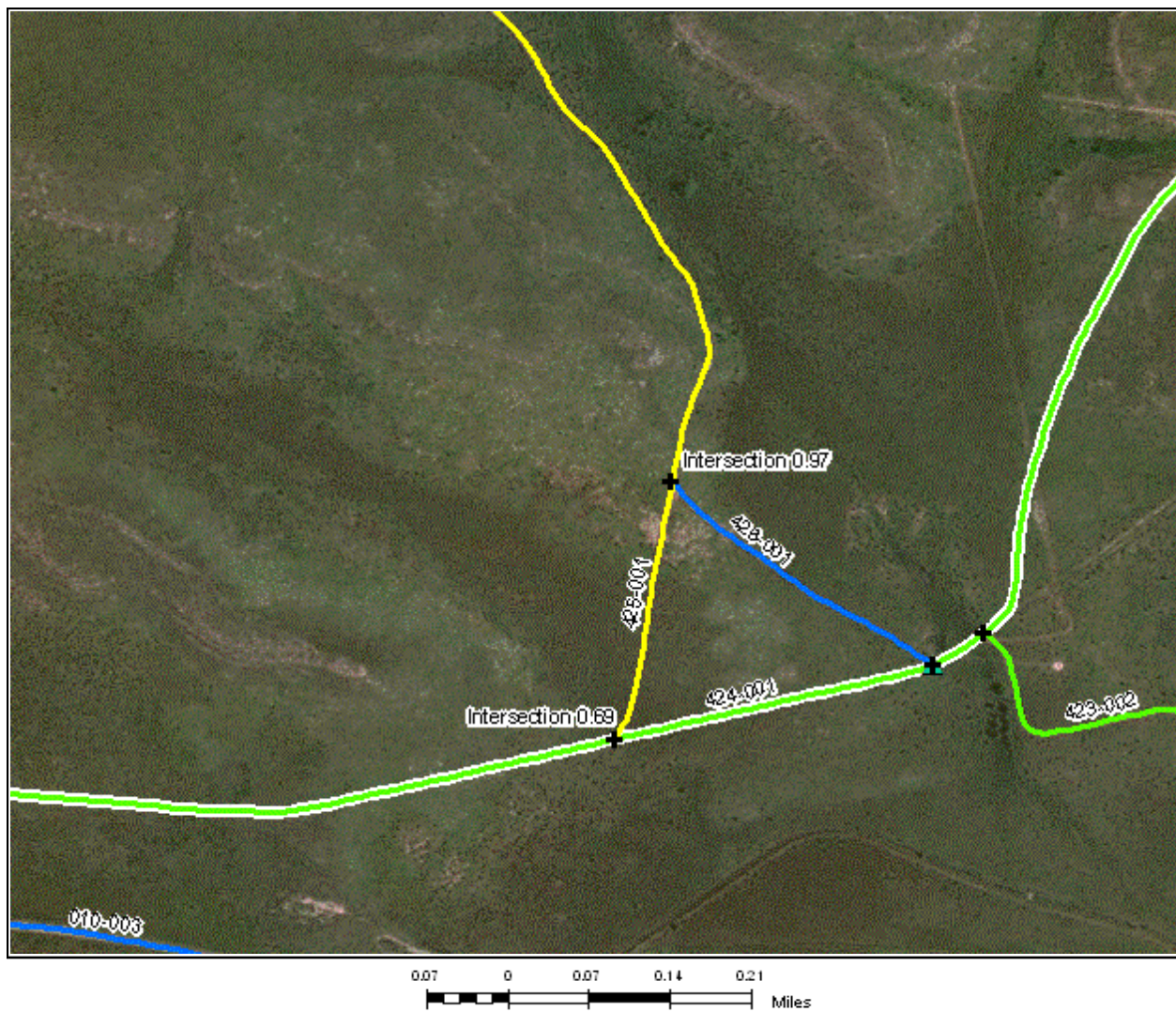


Route: 423 Deer Road

Total Route Length: **1.26 Miles**

Route Description: From Service Use Goose Lake Road (Route 418) to Slew Foot Road (Route 423)

Asset Number	10047135	10047135
Section Number	001	002
Section Length (miles)	1.03	0.23
Inspection Date	05/12/2009	05/12/2009
Section Information		
Surface Type	Native	Native
Number of Lanes	1	1
Roadway Width (feet)	10.00	10.00
Roadway Condition Information		
Condition	Excellent	Good
Remaining Service Life (years)	9	7
Cost Estimate	0	400
CRV	366,200.00	82,300.00

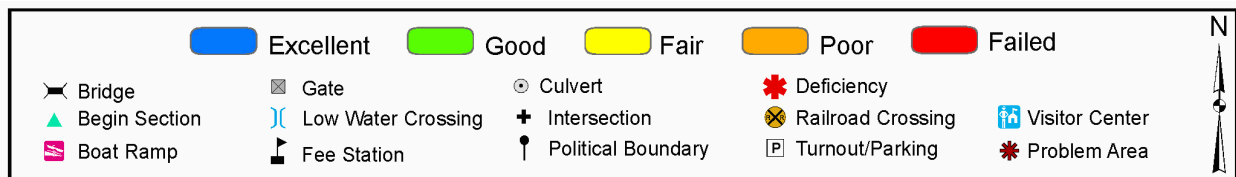
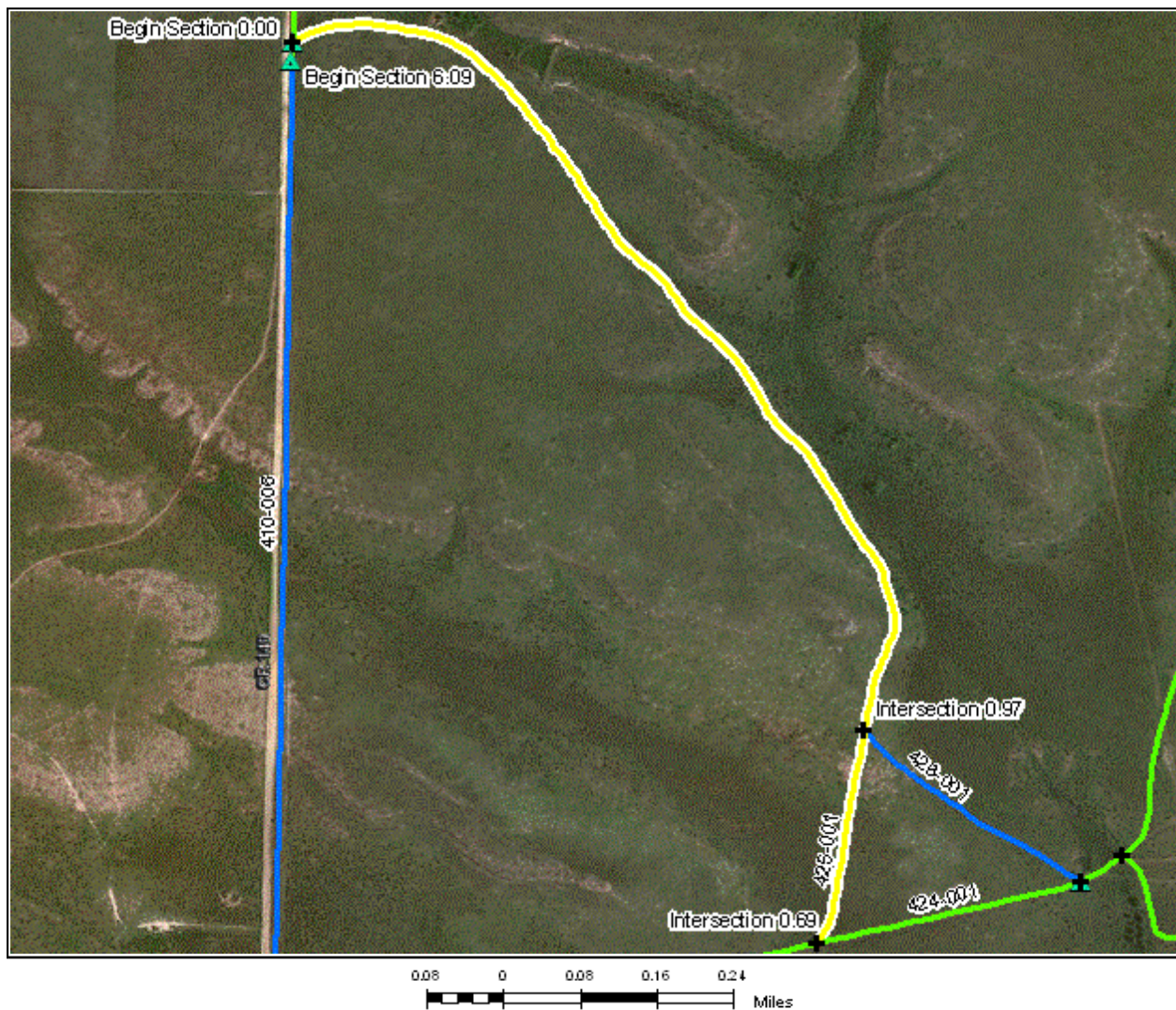


Route: 424 Slew Foot Road

Total Route Length: **1.18 Miles**

Route Description: From Boundary Fire Break Road (Route 410) to Boundary Fire Break Road (Route 410)

Asset Number	10047135
Section Number	001
Section Length (miles)	1.18
Inspection Date	05/12/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	10.00
Roadway Condition Information	
Condition	Good
Remaining Service Life (years)	7
Cost Estimate	2,000
CRV	419,400.00



Route: 425 Bobcat Road

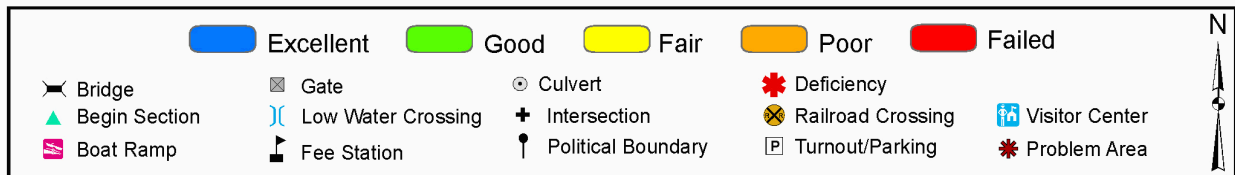
Total Route Length: **1.17 Miles**

Route Description: From Boundary Fire Break Road (Route 410) to Slew Foot Road (Route 424)

Asset Number	10047135
Section Number	001
Section Length (miles)	1.17
Inspection Date	05/12/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	10.00
Roadway Condition Information	
Condition	Fair
Remaining Service Life (years)	3
Cost Estimate	2,500
CRV	417,700.00



0.01 0 0.01 0.02 0.03 Miles

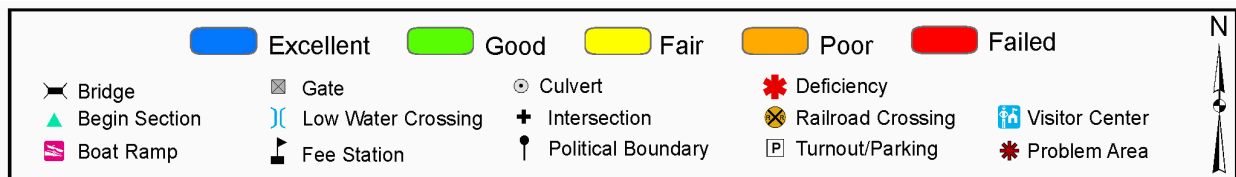
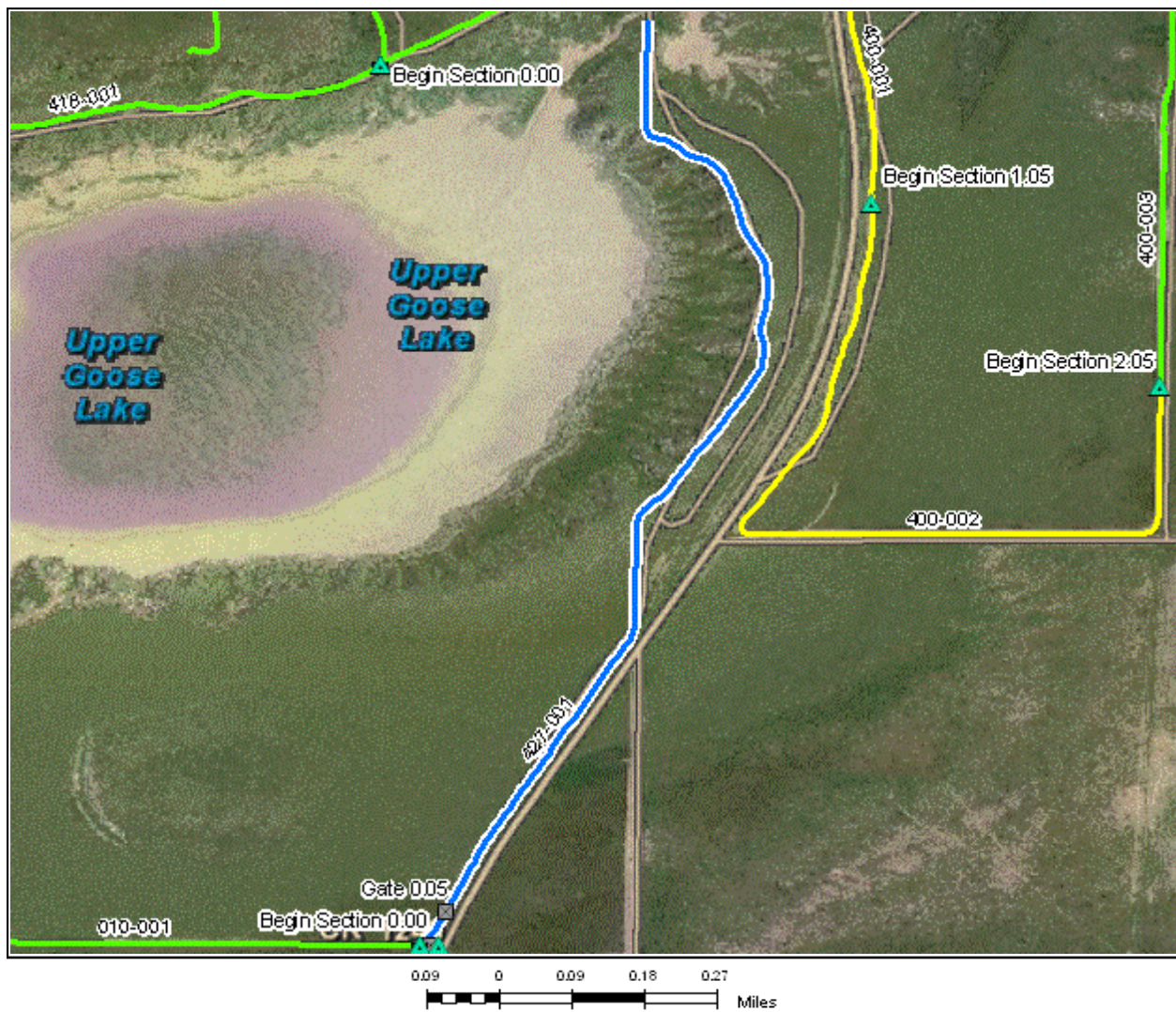


Route: 426 Beierman's Triangle Cut-Across

Total Route Length: **0.24 Miles**

Route Description: From Slew Foot Road (Route 424) to Bobcat Route (Route 425)

Asset Number	10047135
Section Number	001
Section Length (miles)	0.24
Inspection Date	05/12/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	10.00
Roadway Condition Information	
Condition	Excellent
Remaining Service Life (years)	8
Cost Estimate	0
CRV	84,700.00



Route: 427 South Goose Lake Overlook

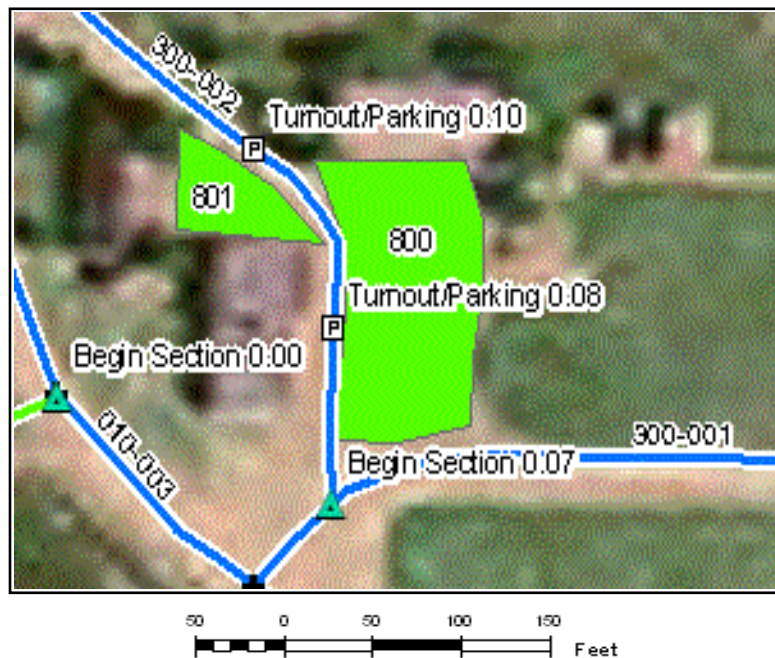
Total Route Length: **1.25 Miles**

Route Description: Refuge Entrance Road (Route 010) to end of route at creek

Asset Number	10047135
Section Number	001
Section Length (miles)	1.25
Inspection Date	05/12/2009
Section Information	
Surface Type	Native
Number of Lanes	1
Roadway Width (feet)	10.00
Roadway Condition Information	
Condition	Excellent
Remaining Service Life (years)	8
Cost Estimate	0
CRV	445,500.00

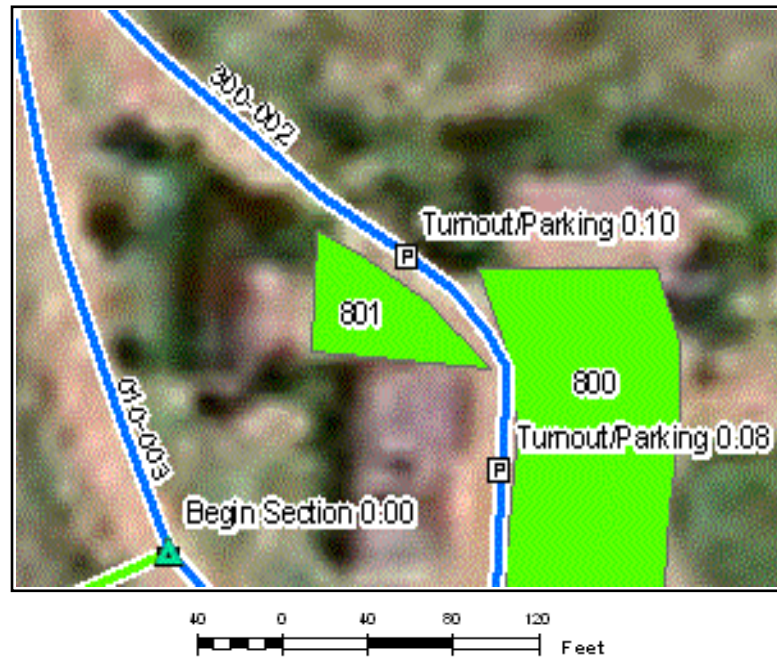
800: Maintenance Parking Area

Asset Number	Date Visited	Surface Type	Area (Sq Ft)	Condition	Cost to Improve
	05/11/2009	Gravel	6,444	Good	1,000



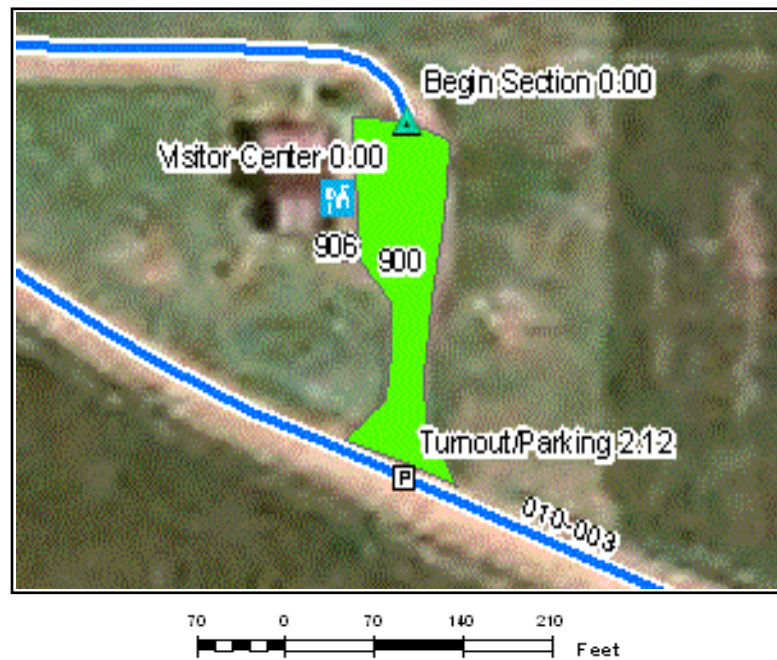
801: Shop Parking Area

Asset Number	Date Visited	Surface Type	Area (Sq Ft)	Condition	Cost to Improve
	05/11/2009	Gravel	1,491	Good	200



900: Visitor Center Parking Area

Asset Number	Date Visited	Surface Type	Area (Sq Ft)	Condition	Cost to Improve
10008049	05/11/2009	Gravel	7,573	Good	1,100



901: Trailhead Parking Area

Asset Number	Date Visited	Surface Type	Area (Sq Ft)	Condition	Cost to Improve
10008049	05/10/2005	Native	1,019	Fair	300



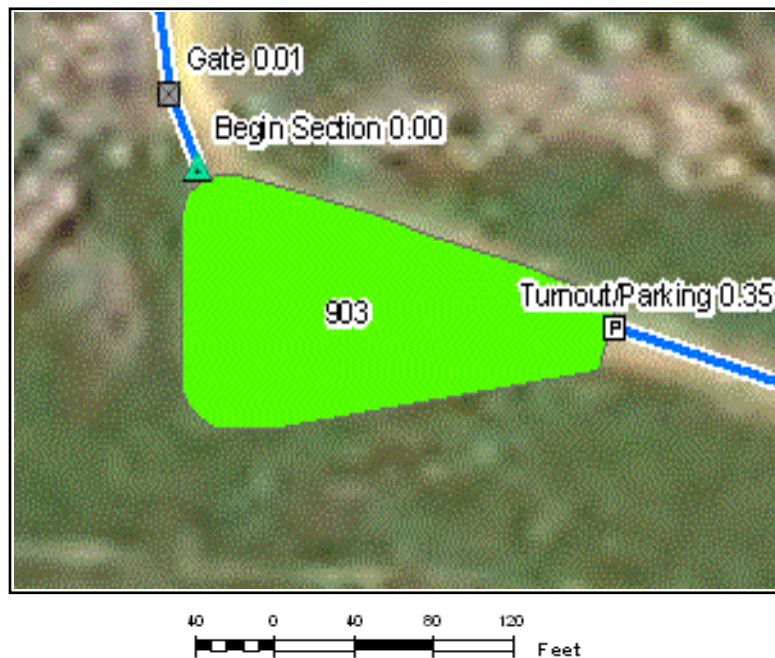
902: White Lake Parking Area

Asset Number	Date Visited	Surface Type	Area (Sq Ft)	Condition	Cost to Improve
10008049	05/11/2009	Native	8,622	Good	1,300



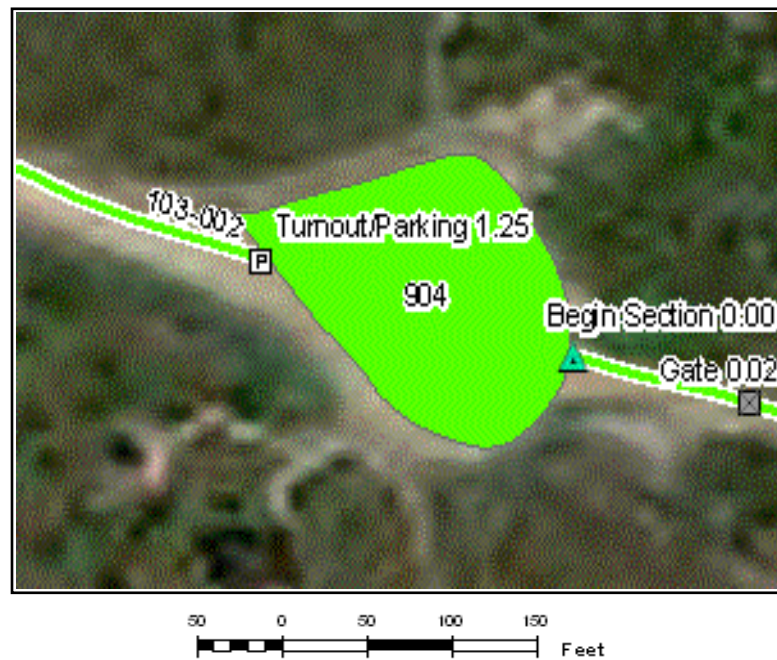
903: Goose Lake Parking Area

Asset Number	Date Visited	Surface Type	Area (Sq Ft)	Condition	Cost to Improve
10008049	05/11/2009	Gravel	10,167	Good	1,500



904: Paul's Lake Parking Area

Asset Number	Date Visited	Surface Type	Area (Sq Ft)	Condition	Cost to Improve
10008049	05/11/2009	Gravel	11,209	Good	1,700



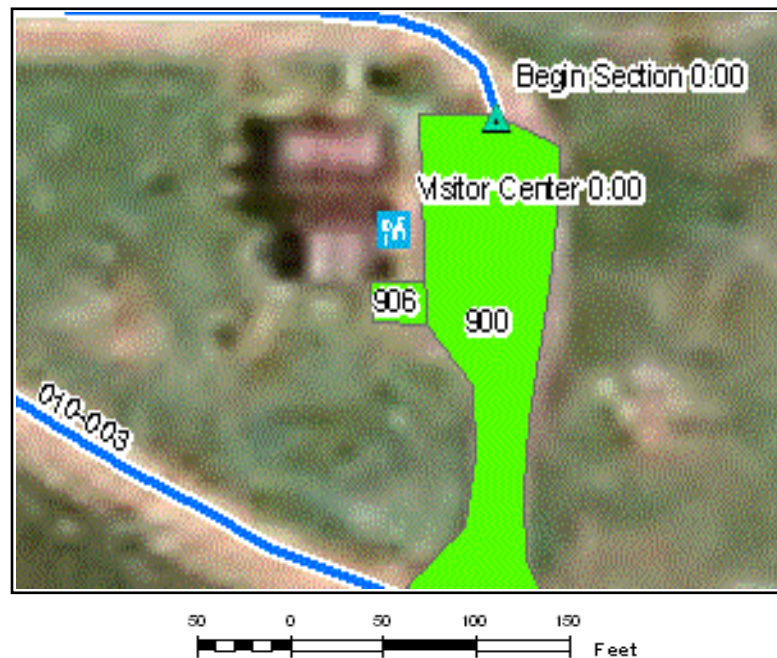
905: Camping Loop Handicapped Parking

Asset Number	Date Visited	Surface Type	Area (Sq Ft)	Condition	Cost to Improve
	05/11/2009	Concrete	308	Good	0



906: Visitor Center Handicapped Parking

Asset Number	Date Visited	Surface Type	Area (Sq Ft)	Condition	Cost to Improve
	05/11/2009	Concrete	345	Good	0



Muleshoe Bridge Inventory					
Route #	Milepost	NBIS #	Sufficiency Rating	Functionally Obsolete	Structurally Deficient

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 010 ROUTE NAME: Refuge Entrance Road



Photo # MULE_C4_0156 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 010 ROUTE NAME: Refuge Entrance Road



Photo # MULE_C4_0159 - MP 1.02 - Begin Section 002

ROUTE NUMBER: 010 ROUTE NAME: Refuge Entrance Road



Photo # MULE_C4_0161 - MP 2.05 - Begin Section 003

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 010 ROUTE NAME: Refuge Entrance Road



Photo # MULE_C4_0162 - MP 2.32 - R 003

ROUTE NUMBER: 100 ROUTE NAME: Camping Loop Road



Photo # MULE_C4_0165 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 101 ROUTE NAME: White Lake Road



Photo # MULE_C4_0182 - MP 0.00 - Begin Section 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 102 ROUTE NAME: Goose Lake Road



Photo # MULE_C4_0185 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 103 ROUTE NAME: Paul's Lake Road



Photo # MULE_C4_0190 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 103 ROUTE NAME: Paul's Lake Road



Photo # MULE_C4_0198 - MP 1.01 - Begin Section 002

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 104 ROUTE NAME: Refuge Information Loop #1



Photo # MULE_C4_0160 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 105 ROUTE NAME: Refuge Information Loop #2



Photo # MULE_C4_0177 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 105 ROUTE NAME: Refuge Information Loop #2



Photo # MULE_C4_0178 - MP 0.00 - R 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 105 ROUTE NAME: Refuge Information Loop #2



Photo # MULE_C4_0180 - MP 0.03 - R 001

ROUTE NUMBER: 106 ROUTE NAME: Refuge Information Loop #3



Photo # MULE_C4_0193 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 106 ROUTE NAME: Refuge Information Loop #3



Photo # MULE_C4_0194 - MP 0.00 - R 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 106 ROUTE NAME: Refuge Information Loop #3



Photo # MULE_C4_0196 - MP 0.03 - R 001

ROUTE NUMBER: 300 ROUTE NAME: Maintenance Access Road



Photo # MULE_C4_0170 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 300 ROUTE NAME: Maintenance Access Road



Photo # MULE_C4_0171 - MP 0.07 - Begin Section 002

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 301 ROUTE NAME: Residence Access Loop



Photo # MULE_C4_0172 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 302 ROUTE NAME: Boneyard Loop



Photo # MULE_C4_0173 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 400 ROUTE NAME: East Firebreak Road



Photo # MULE_C4_0201 - MP 0.00 - Begin Section 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 400 ROUTE NAME: East Firebreak Road



Photo # MULE_C4_0203 - MP 1.05 - Begin Section 002

ROUTE NUMBER: 400 ROUTE NAME: East Firebreak Road



Photo # MULE_C4_0204 - MP 2.05 - Begin Section 003

ROUTE NUMBER: 400 ROUTE NAME: East Firebreak Road



Photo # MULE_C4_0205 - MP 3.08 - Begin Section 004

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 400 ROUTE NAME: East Firebreak Road



Photo # MULE_C4_0206 - MP 4.09 - Begin Section 005

ROUTE NUMBER: 401 ROUTE NAME: Pig Loop



Photo # MULE_C4_0207 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 402 ROUTE NAME: Running Pig Road



Photo # MULE_C4_0208 - MP 0.00 - Begin Section 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 403 ROUTE NAME: Paul's South Overlook Road



Photo # MULE_C4_0209 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 404 ROUTE NAME: Trespass Road



Photo # MULE_C4_0210 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 405 ROUTE NAME: Paul's Lake Levee Road



Photo # MULE_C4_0211 - MP 0.00 - Begin Section 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 406 ROUTE NAME: Caswell Road



Photo # MULE_C4_0214 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 406 ROUTE NAME: Caswell Road



Photo # MULE_C4_0215 - MP 0.43 - Begin Section 002

ROUTE NUMBER: 407 ROUTE NAME: Black Spring Road



Photo # MULE_C4_0216 - MP 0.00 - Begin Section 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 408 ROUTE NAME: New Aquisition Road



Photo # MULE_C4_0218 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 408 ROUTE NAME: New Aquisition Road



Photo # MULE_C4_0219 - MP 1.04 - Begin Section 002

ROUTE NUMBER: 408 ROUTE NAME: New Aquisition Road



Photo # MULE_C4_0220 - MP 2.04 - Begin Section 003

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 408 ROUTE NAME: New Aquisition Road



Photo # MULE_C4_0221 - MP 3.06 - Begin Section 004

ROUTE NUMBER: 409 ROUTE NAME: Gleason Road (Northwest Firebreak)



Photo # MULE_C4_0222 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 409 ROUTE NAME: Gleason Road (Northwest Firebreak)



Photo # MULE_C4_0223 - MP 1.02 - Begin Section 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 410 ROUTE NAME: Boundary Firebreak Road



Photo # MULE_C4_0225 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 410 ROUTE NAME: Boundary Firebreak Road



Photo # MULE_C4_0228 - MP 1.03 - Begin Section 002

ROUTE NUMBER: 410 ROUTE NAME: Boundary Firebreak Road



Photo # MULE_C4_2631 - MP 2.11 - Begin Section 003

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 410 ROUTE NAME: Boundary Firebreak Road



Photo # MULE_C4_2632 - MP 3.14 - Begin Section 004

ROUTE NUMBER: 410 ROUTE NAME: Boundary Firebreak Road



Photo # MULE_C4_2633 - MP 4.16 - Begin Section 005

ROUTE NUMBER: 410 ROUTE NAME: Boundary Firebreak Road



Photo # MULE_C4_2635 - MP 5.05 - Begin Section 006

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 410 ROUTE NAME: Boundary Firebreak Road



Photo # MULE_C4_2637 - MP 6.09 - Begin Section 007

ROUTE NUMBER: 410 ROUTE NAME: Boundary Firebreak Road



Photo # MULE_C4_2639 - MP 7.11 - Begin Section 008

ROUTE NUMBER: 410 ROUTE NAME: Boundary Firebreak Road



Photo # MULE_C4_2641 - MP 8.12 - Begin Section 009

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 410 ROUTE NAME: Boundary Firebreak Road



Photo # MULE_C4_2644 - MP 9.14 - Begin Section 010

ROUTE NUMBER: 410 ROUTE NAME: Boundary Firebreak Road



Photo # MULE_C4_2646 - MP 10.15 - Begin Section 011

ROUTE NUMBER: 411 ROUTE NAME: Playa Road



Photo # MULE_C4_0229 - MP 0.00 - Begin Section 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 411 ROUTE NAME: Playa Road



Photo # MULE_C4_0230 - MP 1.00 - Begin Section 002

ROUTE NUMBER: 412 ROUTE NAME: White Lake Levee Road



Photo # MULE_C4_0231 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 413 ROUTE NAME: White Lake Road



Photo # MULE_C4_0234 - MP 0.00 - Begin Section 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 413 ROUTE NAME: White Lake Road



Photo # MULE_C4_0235 - MP 1.04 - Begin Section 002

ROUTE NUMBER: 414 ROUTE NAME: Enoch Road



Photo # MULE_C4_0236 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 415 ROUTE NAME: Perch Road



Photo # MULE_C4_0237 - MP 0.00 - Begin Section 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 416 ROUTE NAME: White Lake Boundary Connector



Photo # MULE_C4_0238 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 417 ROUTE NAME: North Goose Overlook Road



Photo # MULE_C4_2647 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 418 ROUTE NAME: Service Use Goose Lake Road



Photo # MULE_C4_2651 - MP 0.00 - Begin Section 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 418 ROUTE NAME: Service Use Goose Lake Road



Photo # MULE_C4_2653 - MP 1.06 - Begin Section 002

ROUTE NUMBER: 419 ROUTE NAME: Goose Lake Levee Road



Photo # MULE_C4_2630 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 420 ROUTE NAME: Hill Top Road



Photo # MULE_C4_2652 - MP 0.00 - Begin Section 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 420 ROUTE NAME: Hill Top Road



Photo # MULE_C4_2645 - MP 0.38 - Begin Section 002

ROUTE NUMBER: 421 ROUTE NAME: Curve Road



Photo # MULE_C4_2643 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 422 ROUTE NAME: Running Buck Road



Photo # MULE_C4_2642 - MP 0.00 - Begin Section 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 423 ROUTE NAME: Deer Road



Photo # MULE_C4_2654 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 423 ROUTE NAME: Deer Road



Photo # MULE_C4_2655 - MP 1.03 - Begin Section 002

ROUTE NUMBER: 424 ROUTE NAME: Slew Foot Road



Photo # MULE_C4_2640 - MP 0.00 - Begin Section 001

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 425 ROUTE NAME: Bobcat Road



Photo # MULE_C4_2638 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 426 ROUTE NAME: Beierman's Triangle Cut-Across



Photo # MULE_C4_2656 - MP 0.00 - Begin Section 001

ROUTE NUMBER: 427 ROUTE NAME: South Goose Lake Overlook



Photo # MULE_C4_2627 - MP 0.00 - Begin Section 001

Accident Summary

Number of Accidents Reported	Timespan of Accidents	Injuries	Fatalities
0	No Accidents to Report	0	0

APPENDIX

TABLE 1 - GENERAL FWS ROAD FUNCTIONAL CLASSIFICATION	
Class I	Principal Refuge Road (Public Roads) - Routes that constitute the main access route, main auto tour route, or thoroughfare for refuge visitors. These routes are accessible by 2WD vehicles. Routes are numbered from 10 to 99.
Class II	Connector Refuge Road (Public Roads) - Routes that provide circulation within the refuge. These routes can also provide access to areas of scenic, scientific, recreational or cultural interest, such as overlooks, campgrounds, education centers, etc. These routes are accessible by 2WD vehicles. Routes are numbered from 100 to 199.
Class III	Special Purpose Refuge Road (Public Roads) - Roads that provide circulation within special use areas such as campgrounds or public concessionaire facilities or access to remote areas of the refuge. These routes may not be 2WD accessible. Routes are numbered from 200 to 299
Class IV	Administrative Access Road (Administrative Roads) - Routes intended for access to administrative developments or structures such as maintenance offices, employee quarters, or utility areas. These routes are accessible by 2WD vehicles. These routes may restrict access to the general public. Routes are numbered from 300 to 399.
Class V	Restricted Road (Administrative Roads) - Routes normally closed to the public, such as maintenance roads, service roads, patrol roads, and fire breaks. These routes may be open to the public for a short period of time for a special use, such as hunting access. These routes may not be 2WD accessible. Routes are numbered from 400 to 499.

A refuge road system contains those routes within or giving access to a refuge or other unit of the FWS that are administered by the FWS, or by the Service in cooperation with other agencies. The assignment of a functional classification (FC) to a refuge road is not based on traffic volumes or design speed, but on the intended use or function of that route

DESCRIPTION OF RATING SYSTEM

Rating Data is collected on four different surface types: Asphalt, Concrete, Gravel, and Native. The Utah LTAP Center's Remaining Service Life (RSL) system is used for all surface types. The RSL system is based on the Strategic Highway Research Program's (SHRP) Distress Identification Manual.

Asphalt Rating System

Data is collected on the following distresses and conditions:

- **Fatigue Cracking** - Interconnected cracks forming small irregular shapes.
- **Longitudinal Cracking** - Cracks running parallel with the roadway, in the direction of traffic.
- **Transverse Cracking** - Cracks perpendicular to the roadway, going across the lane or lanes.
- **Block Cracking** - Interconnected cracks forming large blocks.
- **Edge Cracking** - Cracks running along the edge of the pavement surface.
- **Patches** - Original surface repaired with new asphalt patch material.
- **Potholes** - Holes or depressions in the pavement.
- **Rutting** - surface depressions in the wheel paths.
- **Roughness** - Evenness of pavement for serviceability.
- **Drainage** - Ability of the road surface to drain water based on proper slope.

A Condition Rating value is calculated for each homogenous pavement section, and can be up to 1 mile in length.

Rating Index Formula

Fatigue, longitudinal, transverse, block, and edge cracking, along with patching and potholes are rated on a 0 - 9 scale (0 = no distress, 9 = maximum distress). The rating given is based on the extent and the severity of the distress. Rutting, roughness, and drainage are rated on a 0 - 3 scale (0 = excellent, 3 = poor). Each distress type has given Remaining Service Life (RSL) values (in years) based on the rating for that particular distress. The distress with the rating resulting in the lowest RSL value is considered to be the governing distress. That value is then assigned as the RSL of the road segment.

Concrete Rating System

Data is collected on the following distresses and conditions:

- **Spalling of Joints** - Chipping, breaking, or cracking of slab edges
- **Joint Seal Damage** - Any damage or condition that enables materials or water to infiltrate into the joint from the surface.
- **Corner Breaks** - A portion of the slab separated by a crack that intersects the adjacent transverse and longitudinal joints, forming approximately a 45° angle to the direction.
- **Broken Slabs** - Faulting and/or cracking localized to individual slabs.

- **Faulting** – Difference in elevation across a crack or joint.
- **Longitudinal Cracking** – Cracks in the pavement running parallel to road.
- **Transverse Cracking** - Cracks in the pavement running perpendicular to the direction of traffic.
- **Patch Deterioration** – Faulting, settling, or cracking of previously placed patch
- **Map Cracking** – A series of cracks that extend only into the upper surface of the Slab

A Condition Rating value is calculated for each homogenous pavement section, and can be up to 1 mile in length.

Rating Index Formula

The rating procedure for concrete pavement is the same as that for asphalt pavement described previously. Each of the distresses described above are rated on the same 0 – 9 scale. The governing distress is then determined and the RSL associated with that distress is assigned to the road segment.

Gravel and Native Rating System

Data is collected on the following distresses and conditions:

- **Cross Section (Crown)** - Roadway built so that the center is higher than the shoulder, to prevent water from pooling on roadway.
- **Roadside Drainage** - Roadside ditches and culverts to handle water flow and prevent pooling on the roadside.
- **Corrugations (Washboarding)** - Small trenches or holes developing perpendicular to the roadway.
- **Potholes** - Holes or depressions in the roadway.
- **Rutting** - Depressions running parallel with the roadway, in the wheelpaths.
- **Dust** - Amount of dust caused by traffic.
- **Loose Aggregate (Gravel Only)** - Loose gravel, typically piled up on the roadway edges or centerline.

A Condition Rating value is calculated for each homogenous pavement section, and can be up to 1 mile in length.

Rating Index Formula

The rating procedure for unpaved roads is the same as that for asphalt and concrete pavements described previously. Of the distresses described above, corrugations, potholes, rutting, and loose aggregate are rated on the same 0 – 9 scale previously mentioned. Cross section, roadside drainage, and dust are rated on the same 0 – 3 scale described for asphalt pavement. The governing distress is then determined and the RSL associated with that distress is assigned to the road segment.

Condition Descriptions by Surface Type

The following definitions are used to describe pavement condition for the various surface types. These are general guidelines for condition indications.

Asphalt

Excellent – Recently constructed or overlaid road where construction or overlay was performed correctly- No maintenance required. RSL = 19-20 years.

Good – Low extent longitudinal and transverse cracks. All cracks are 1/4" or less with little or no crack erosion. Patches are in good condition and applied correctly. Routine Maintenance recommended. RSL = 13-18 years.

Fair - Roads are in good structural condition with little or no fatigue cracking. Longitudinal, transverse, and edge cracking is at medium extent and severity. Block cracking is not extensive. Any patches are in good condition. Preventative maintenance recommended. RSL = 7-12 years.

Poor - Road beginning to show signs of structural distress. Fatigue cracking is medium to high extent and medium severity. Cracking will be severe. Surface may have severe block cracking and show. Patches are in fair to poor condition. There is moderate distortion or rutting and occasional potholes. Rehabilitation recommended. RSL = 1-6 years.

Failed - Road is severely deteriorated. Signs of structural failure appear along with severe and extensive fatigue cracking, distortion, potholes, or extensive patches in poor condition. Reconstruction recommended. RSL = 0 years.

Concrete

Excellent - New pavement. No maintenance required. RSL = 19-20 years

Good - First signs of transverse cracking, patch or repair, more extensive pop-outs, or scaling. Sealing or routine maintenance recommended. RSL = 13-18 years.

Fair – Pavement has joint or crack spalling, and/or faulting, along with cracking at corners with broken pieces. Any Patches are in fair condition and faulting is at a minimum. Preventative maintenance recommended. RSL = 7-12 years.

Poor - Joints and cracks are open 1 inch, spalled, or patched. Faulting is more severe. Rehabilitation recommended. RSL = 1-6 years.

Failed - Most slabs have failed structurally, and faulting is severe. Reconstruction recommended. RSL = 0 years.11-9

The following table shows the relationship between RSL and condition.

SUBJECTIVE CONDITION RATING FOR REMAINING SERVICE LIFE (Asphalt and Concrete Pavements)								
	FAILED	POOR		FAIR		GOOD		EXCELLENT
RSL Years	0	1-3	4-6	7-9	10-12	13-15	16-18	19-20

Gravel and Native

Note - Native surfaces do not have a gravel layer.

Excellent - Newly constructed road that has been constructed properly with proper crown, drainage and gravel layer. Little or no distress. No maintenance recommended. RSL = 8-10 years.

Good - Crown, drainage provisions, and gravel layer are in good condition. Distress limited to traffic effects such as dust, loose aggregate, and low severity corrugations (wash boarding). RSL = 5-7 years.

Fair - Adequate drainage and crown through majority of roadway. Crown repair, ditch improvement may be necessary. Road has more severe corrugations and potholes. Preventative maintenance recommended. RSL = 3-4 years.

Poor - Travel at slow speeds is necessary. Additional gravel layer needed to carry traffic. Poor crown. Ditching is inadequate and rutting is extensive and severe. Rehabilitation recommended. RSL = 1-2 years.

Failed - Travel is difficult, and road may be closed at times. Rutting and Corrugations are very severe. Total Reconstruction of road is recommended. RSL = 0 years.

The following table shows the RSL values for gravel and native roads in terms of excellent, good, fair, poor, and failed condition.

SUBJECTIVE CONDITION RATING FOR REMAINING SERVICE LIFE (Gravel and Native Surfaces)					
	FAILED	POOR	FAIR	GOOD	EXCELLENT
RSL Years	0	1-2	3-4	5-7	8-10